CETIFICATION

SDG No:	JC22206	Laboratory:	Accutest, New Jersey
Site:	BMS, Building 5 Area, PR Humacao, PR	Matrix:	Groundwater

SUMMARY: Groundwater samples (Table 1) were collected on the BMSMC facility – Building 5 Area. The BMSMC facility is located in Humacao, PR. Samples were taken June 10-14, 2016 and were analyzed in Accutest Laboratory of Dayton, New Jersey for the ABN TCL Special List (1,4-Dioxane and Naphthalene were analyzed following the SIM technique); TCL pesticides list; and for low molecular weight alcohols (LMWA) the results were reported under SDG No.: JC22206. Results were validated using the latest validation guidelines (July, 2015) of the EPA Hazardous Waste Support Section. The analyses performed are shown in Table 1. Individual data review worksheets are enclosed for each target analyte group. The data sample organic data samples summary form shows for analytes results that were qualified.

In summary the results are valid and can be used for decision taking purposes.

Table 1. Samples analyzed and analysis performed

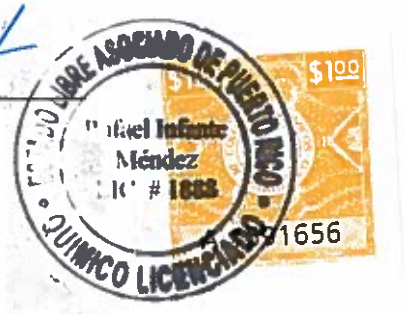
SAMPLE ID	SAMPLE DESCRIPTION	MATRIX	ANALYSIS PERFORMED
JC22206-1	MW-17	Groundwater	ABN TCL special list; 1,-4-dioxane and Naphthalene (SIM); LMWA
JC22206-1D	MW-17 MSD	Groundwater	ABN TCL special list; 1,-4-dioxane and Naphthalene (SIM); LMWA
JC22206-1S	MW-17 MS	Groundwater	ABN TCL special list; 1,-4-dioxane and Naphthalene (SIM); LMWA
JC22206-2	MW-18	Groundwater	ABN TCL special list; 1,-4-dioxane and Naphthalene (SIM); LMWA
JC22206-3	MW-7	Groundwater	ABN TCL special list; 1,-4-dioxane and Naphthalene (SIM); LMWA
JC22206-4	S-36	Groundwater	ABN TCL special list; 1,-4-dioxane and Naphthalene (SIM); Pesticides TCL list; LMWA
JC22206-5	S-36D	Groundwater	ABN TCL special list; 1,-4-dioxane and Naphthalene (SIM); Pesticides TCL list; LMWA
JC22206-6	MW-11	Groundwater	ABN TCL special list; 1,-4-dioxane and Naphthalene (SIM); Pesticides TCL list; LMWA
JC22206-7	S-37	Groundwater	ABN TCL special list; 1,-4-dioxane and Naphthalene (SIM); Pesticides TCL list; LMWA
JC22206-8	S-32	Groundwater	ABN TCL special list; 1,-4-dioxane and Naphthalene (SIM); Pesticides TCL list; LMWA

SAMPLE ID	SAMPLE DESCRIPTION	MATRIX	ANALYSIS PERFORMED
JC22206-9	RA-10S	Groundwater	ABN TCL special list; 1,-4-dioxane and Naphthalene (SIM); Pesticides TCL list; LMWA
JC22206-9D	RA-10S MSD	Groundwater	ABN TCL special list; 1,-4-dioxane and Naphthalene (SIM); Pesticides TCL list; LMWA
JC22206-9S	RA-10S MS	Groundwater	ABN TCL special list; 1,-4-dioxane and Naphthalene (SIM); Pesticides TCL list; LMWA
JC22206-10	RA-10D	Groundwater	ABN TCL special list; 1,-4-dioxane and Naphthalene (SIM); Pesticides TCL list; LMWA
JC22206-11	EB-061416	AQ – Equipment Blank	ABN TCL special list; 1,-4-dioxane and Naphthalene (SIM); Pesticides TCL list; LMWA

Reviewer Name: Rafael Infante
Chemist License 1888

Signature: Rafael Infante

Date: July 19, 2016



SGS Accutest

Report of Analysis

Client Sample ID:	MW-17		
Lab Sample ID:	JC22206-1	**Date Sampled:**	06/10/16
Matrix:	AQ - Ground Water	**Date Received:**	06/15/16
Method:	SW846 8270D SW846 3510C	**Percent Solids:**	n/a
Project:	BMSMC, Building 5 Area, PR		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F158276.D	1	06/23/16	BP	06/16/16	OP94835	EF6662
Run #2							

	Initial Volume	Final Volume
Run #1	930 ml	1.0 ml
Run #2		

ABN TCL Special List .

CAS No.	Compound	Result	RL	MDL	Units	Q
95-57-8	2-Chlorophenol	ND	5.4	0.88	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	5.4	0.96	ug/l	
120-83-2	2,4-Dichlorophenol	ND	2.2	1.4	ug/l	
105-67-9	2,4-Dimethylphenol	ND	5.4	2.6	ug/l	
51-28-5	2,4-Dinitrophenol	ND	11	1.7	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	5.4	1.4	ug/l	
95-48-7	2-Methylphenol	ND	2.2	0.95	ug/l	
	3&4-Methylphenol	ND	2.2	0.95	ug/l	
88-75-5	2-Nitrophenol	ND	5.4	1.0	ug/l	
100-02-7	4-Nitrophenol	ND	11	1.2	ug/l	
87-86-5	Pentachlorophenol	ND	5.4	1.5	ug/l	
108-95-2	Phenol	ND	2.2	0.42	ug/l	
58-90-2	2,3,4,6-Tetrachlorophenol	ND	5.4	1.6	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	5.4	1.4	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	5.4	0.99	ug/l	
83-32-9	Acenaphthene	ND	1.1	0.21	ug/l	
208-96-8	Acenaphthylene	ND	1.1	0.15	ug/l	
98-86-2	Acetophenone	ND	2.2	0.22	ug/l	
120-12-7	Anthracene	ND	1.1	0.23	ug/l	
1912-24-9	Atrazine	ND	2.2	0.48	ug/l	
100-52-7	Benzaldehyde	ND	5.4	0.31	ug/l	
56-55-3	Benzo(a)anthracene	ND	1.1	0.22	ug/l	
50-32-8	Benzo(a)pyrene	ND	1.1	0.23	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	1.1	0.22	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	1.1	0.37	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	1.1	0.22	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	2.2	0.43	ug/l	
85-68-7	Butyl benzyl phthalate	ND	2.2	0.49	ug/l	
92-52-4	1,1'-Biphenyl	ND	1.1	0.23	ug/l	
91-58-7	2-Chloronaphthalene	ND	2.2	0.25	ug/l	
106-47-8	4-Chloroaniline	7.5	5.4	0.37	ug/l	
86-74-8	Carbazole	ND	1.1	0.25	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-17		
Lab Sample ID:	JC22206-1	**Date Sampled:**	06/10/16
Matrix:	AQ - Ground Water	**Date Received:**	06/15/16
Method:	SW846 8270D SW846 3510C	**Percent Solids:**	n/a
Project:	BMSMC, Building 5 Area, PR		

ABN TCL Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
105-60-2	Caprolactam	ND	2.2	0.70	ug/l	
218-01-9	Chrysene	ND	1.1	0.19	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	2.2	0.30	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	2.2	0.27	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	2.2	0.43	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	2.2	0.39	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	1.1	0.59	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	1.1	0.51	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	2.2	0.55	ug/l	
123-91-1	1,4-Dioxane	13.6	1.1	0.71	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	1.1	0.36	ug/l	
132-64-9	Dibenzofuran	ND	5.4	0.24	ug/l	
84-74-2	Di-n-butyl phthalate	ND	2.2	0.53	ug/l	
117-84-0	Di-n-octyl phthalate	ND	2.2	0.25	ug/l	
84-66-2	Diethyl phthalate	ND	2.2	0.28	ug/l	
131-11-3	Dimethyl phthalate	ND	2.2	0.23	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.2	1.8	ug/l	
206-44-0	Fluoranthene	ND	1.1	0.18	ug/l	
86-73-7	Fluorene	ND	1.1	0.18	ug/l	
118-74-1	Hexachlorobenzene	ND	1.1	0.35	ug/l	
87-68-3	Hexachlorobutadiene	ND	1.1	0.53	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	11	3.0	ug/l	
67-72-1	Hexachloroethane	ND	2.2	0.42	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	1.1	0.36	ug/l	
78-59-1	Isophorone	ND	2.2	0.30	ug/l	
90-12-0	1-Methylnaphthalene	ND	1.1	0.28	ug/l	
91-57-6	2-Methylnaphthalene	ND	1.1	0.23	ug/l	
88-74-4	2-Nitroaniline	ND	5.4	0.30	ug/l	
99-09-2	3-Nitroaniline	ND	5.4	0.42	ug/l	
100-01-6	4-Nitroaniline	ND	5.4	0.47	ug/l	
98-95-3	Nitrobenzene	ND	2.2	0.69	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	2.2	0.52	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.4	0.24	ug/l	
85-01-8	Phenanthrene	ND	1.1	0.19	ug/l	
129-00-0	Pyrene	ND	1.1	0.24	ug/l	
95-94-3	1,2,4,5-Tetrachlorobenzene	ND	2.2	0.40	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	44%		14-88%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-17		
Lab Sample ID:	JC22206-1	**Date Sampled:**	06/10/16
Matrix:	AQ - Ground Water	**Date Received:**	06/15/16
Method:	SW846 8270D SW846 3510C	**Percent Solids:**	n/a
Project:	BMSMC, Building 5 Area, PR		

ABN TCL Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-62-2	Phenol-d5	28%		10-110%
118-79-6	2,4,6-Tribromophenol	86%		39-149%
4165-60-0	Nitrobenzene-d5	64%		32-128%
321-60-8	2-Fluorobiphenyl	71%		35-119%
1718-51-0	Terphenyl-d14	74%		10-126%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID:	MW-17		
Lab Sample ID:	JC22206-1	**Date Sampled:**	06/10/16
Matrix:	AQ - Ground Water	**Date Received:**	06/15/16
Method:	SW846 8270D BY SIM SW846 3510C	**Percent Solids:**	n/a
Project:	BMSMC, Building 5 Area, PR		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4M66456.D	1	06/29/16	LK	06/16/16	OP94835A	E4M2988
Run #2							

	Initial Volume	Final Volume
Run #1	930 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
91-20-3	Naphthalene	ND	0.11	0.032	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	57%		24-125%
321-60-8	2-Fluorobiphenyl	52%		19-127%
1718-51-0	Terphenyl-d14	63%		10-119%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID:	MW-17		
Lab Sample ID:	JC22206-1	**Date Sampled:**	06/10/16
Matrix:	AQ - Ground Water	**Date Received:**	06/15/16
Method:	SW846-8015C (DAI)	**Percent Solids:**	n/a
Project:	BMSMC, Building 5 Area, PR		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GH105526.D	1	06/16/16	XPL	n/a	n/a	GGH5324
Run #2							

Low Molecular Alcohol List

CAS No.	Compound	Result	RL	MDL	Units	Q
64-17-5	Ethanol	ND	100	55	ug/l	
78-83-1	Isobutyl Alcohol	ND	100	36	ug/l	
67-63-0	Isopropyl Alcohol	ND	100	68	ug/l	
71-23-8	n-Propyl Alcohol	ND	100	43	ug/l	
71-36-3	n-Butyl Alcohol	ND	100	87	ug/l	
78-92-2	sec-Butyl Alcohol	ND	100	66	ug/l	
67-56-1	Methanol	ND	200	71	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
111-27-3	Hexanol	81%		56-145%
111-27-3	Hexanol	87%		56-145%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID:	MW-18		
Lab Sample ID:	JC22206-2	**Date Sampled:**	06/10/16
Matrix:	AQ - Ground Water	**Date Received:**	06/15/16
Method:	SW846 8270D SW846 3510C	**Percent Solids:**	n/a
Project:	BMSMC, Building 5 Area, PR		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F158277.D	1	06/23/16	BP	06/16/16	OP94835	EF6662
Run #2							

	Initial Volume	Final Volume
Run #1	920 ml	1.0 ml
Run #2		

ABN TCL Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
95-57-8	2-Chlorophenol	ND	5.4	0.89	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	5.4	0.97	ug/l	
120-83-2	2,4-Dichlorophenol	ND	2.2	1.4	ug/l	
105-67-9	2,4-Dimethylphenol	ND	5.4	2.7	ug/l	
51-28-5	2,4-Dinitrophenol	ND	11	1.7	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	5.4	1.4	ug/l	
95-48-7	2-Methylphenol	ND	2.2	0.97	ug/l	
	3&4-Methylphenol	ND	2.2	0.96	ug/l	
88-75-5	2-Nitrophenol	ND	5.4	1.0	ug/l	
100-02-7	4-Nitrophenol	ND	11	1.3	ug/l	
87-86-5	Pentachlorophenol	ND	5.4	1.5	ug/l	
108-95-2	Phenol	ND	2.2	0.43	ug/l	
58-90-2	2,3,4,6-Tetrachlorophenol	ND	5.4	1.6	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	5.4	1.4	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	5.4	1.0	ug/l	
83-32-9	Acenaphthene	ND	1.1	0.21	ug/l	
208-96-8	Acenaphthylene	ND	1.1	0.15	ug/l	
98-86-2	Acetophenone	ND	2.2	0.23	ug/l	
120-12-7	Anthracene	ND	1.1	0.23	ug/l	
1912-24-9	Atrazine	ND	2.2	0.49	ug/l	
100-52-7	Benzaldehyde	ND	5.4	0.31	ug/l	
56-55-3	Benzo(a)anthracene	ND	1.1	0.22	ug/l	
50-32-8	Benzo(a)pyrene	ND	1.1	0.23	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	1.1	0.22	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	1.1	0.37	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	1.1	0.22	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	2.2	0.44	ug/l	
85-68-7	Butyl benzyl phthalate	ND	2.2	0.50	ug/l	
92-52-4	1,1'-Biphenyl	ND	1.1	0.23	ug/l	
91-58-7	2-Chloronaphthalene	ND	2.2	0.26	ug/l	
106-47-8	4-Chloroaniline	ND	5.4	0.37	ug/l	
86-74-8	Carbazole	ND	1.1	0.25	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-18		
Lab Sample ID:	JC22206-2	**Date Sampled:**	06/10/16
Matrix:	AQ - Ground Water	**Date Received:**	06/15/16
Method:	SW846 8270D SW846 3510C	**Percent Solids:**	n/a
Project:	BMSMC, Building 5 Area, PR		

ABN TCL Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
105-60-2	Caprolactam	ND	2.2	0.71	ug/l	
218-01-9	Chrysene	ND	1.1	0.19	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	2.2	0.30	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	2.2	0.27	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	2.2	0.44	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	2.2	0.40	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	1.1	0.60	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	1.1	0.52	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	2.2	0.55	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	1.1	0.36	ug/l	
132-64-9	Dibenzofuran	ND	5.4	0.24	ug/l	
84-74-2	Di-n-butyl phthalate	ND	2.2	0.54	ug/l	
117-84-0	Di-n-octyl phthalate	ND	2.2	0.25	ug/l	
84-66-2	Diethyl phthalate	ND	2.2	0.28	ug/l	
131-11-3	Dimethyl phthalate	ND	2.2	0.24	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.2	1.8	ug/l	
206-44-0	Fluoranthene	ND	1.1	0.18	ug/l	
86-73-7	Fluorene	0.77	1.1	0.19	ug/l	J
118-74-1	Hexachlorobenzene	ND	1.1	0.35	ug/l	
87-68-3	Hexachlorobutadiene	ND	1.1	0.53	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	11	3.0	ug/l	
67-72-1	Hexachloroethane	ND	2.2	0.42	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	1.1	0.36	ug/l	
78-59-1	Isophorone	ND	2.2	0.30	ug/l	
90-12-0	1-Methylnaphthalene	2.6	1.1	0.29	ug/l	
91-57-6	2-Methylnaphthalene	ND	1.1	0.23	ug/l	
88-74-4	2-Nitroaniline	ND	5.4	0.30	ug/l	
99-09-2	3-Nitroaniline	ND	5.4	0.42	ug/l	
100-01-6	4-Nitroaniline	ND	5.4	0.48	ug/l	
98-95-3	Nitrobenzene	ND	2.2	0.70	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	2.2	0.52	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.4	0.24	ug/l	
85-01-8	Phenanthrene	ND	1.1	0.19	ug/l	
129-00-0	Pyrene	ND	1.1	0.24	ug/l	
95-94-3	1,2,4,5-Tetrachlorobenzene	ND	2.2	0.40	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	50%		14-88%
4165-62-2	Phenol-d5	34%		10-110%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-18		
Lab Sample ID:	JC22206-2	**Date Sampled:**	06/10/16
Matrix:	AQ - Ground Water	**Date Received:**	06/15/16
Method:	SW846 8270D SW846 3510C	**Percent Solids:**	n/a
Project:	BMSMC, Building 5 Area, PR		

ABN TCL Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
118-79-6	2,4,6-Tribromophenol	104%		39-149%
4165-60-0	Nitrobenzene-d5	74%		32-128%
321-60-8	2-Fluorobiphenyl	83%		35-119%
1718-51-0	Terphenyl-d14	83%		10-126%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID:	MW-18		
Lab Sample ID:	JC22206-2	**Date Sampled:**	06/10/16
Matrix:	AQ - Ground Water	**Date Received:**	06/15/16
Method:	SW846 8270D BY SIM SW846 3510C	**Percent Solids:**	n/a
Project:	BMSMC, Building 5 Area, PR		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4M66457.D	1	06/29/16	LK	06/16/16	OP94835A	E4M2988
Run #2							

	Initial Volume	Final Volume
Run #1	920 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
91-20-3	Naphthalene	ND	0.11	0.032	ug/l	
123-91-1	1,4-Dioxane	0.723	0.11	0.053	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	74%		24-125%
321-60-8	2-Fluorobiphenyl	69%		19-127%
1718-51-0	Terphenyl-d14	94%		10-119%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID:	MW-18		
Lab Sample ID:	JC22206-2	**Date Sampled:**	06/10/16
Matrix:	AQ - Ground Water	**Date Received:**	06/15/16
Method:	SW846-8015C (DAI)	**Percent Solids:**	n/a
Project:	BMSMC, Building 5 Area, PR		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GH105529.D	1	06/16/16	XPL	n/a	n/a	GGH5324
Run #2							

Low Molecular Alcohol List

CAS No.	Compound	Result	RL	MDL	Units	Q
64-17-5	Ethanol	ND	100	55	ug/l	
78-83-1	Isobutyl Alcohol	ND	100	36	ug/l	
67-63-0	Isopropyl Alcohol	ND	100	68	ug/l	
71-23-8	n-Propyl Alcohol	ND	100	43	ug/l	
71-36-3	n-Butyl Alcohol	ND	100	87	ug/l	
78-92-2	sec-Butyl Alcohol	ND	100	66	ug/l	
67-56-1	Methanol	ND	200	71	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
111-27-3	Hexanol	101%		56-145%
111-27-3	Hexanol	109%		56-145%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID:	MW-7		
Lab Sample ID:	JC22206-3	**Date Sampled:**	06/10/16
Matrix:	AQ - Ground Water	**Date Received:**	06/15/16
Method:	SW846 8270D SW846 3510C	**Percent Solids:**	n/a
Project:	BMSMC, Building 5 Area, PR		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F158293.D	1	06/24/16	BP	06/16/16	OP94835	EF6663
Run #2							

	Initial Volume	Final Volume
Run #1	940 ml	1.0 ml
Run #2		

ABN TCL Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
95-57-8	2-Chlorophenol	ND	5.3	0.87	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	5.3	0.95	ug/l	
120-83-2	2,4-Dichlorophenol	ND	2.1	1.4	ug/l	
105-67-9	2,4-Dimethylphenol	ND	5.3	2.6	ug/l	
51-28-5	2,4-Dinitrophenol	ND	11	1.6	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	5.3	1.4	ug/l	
95-48-7	2-Methylphenol	ND	2.1	0.94	ug/l	
	3&4-Methylphenol	ND	2.1	0.94	ug/l	
88-75-5	2-Nitrophenol	ND	5.3	1.0	ug/l	
100-02-7	4-Nitrophenol	ND	11	1.2	ug/l	
87-86-5	Pentachlorophenol	ND	5.3	1.5	ug/l	
108-95-2	Phenol	ND	2.1	0.42	ug/l	
58-90-2	2,3,4,6-Tetrachlorophenol	ND	5.3	1.6	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	5.3	1.4	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	5.3	0.98	ug/l	
83-32-9	Acenaphthene	ND	1.1	0.20	ug/l	
208-96-8	Acenaphthylene	ND	1.1	0.14	ug/l	
98-86-2	Acetophenone	ND	2.1	0.22	ug/l	
120-12-7	Anthracene	ND	1.1	0.22	ug/l	
1912-24-9	Atrazine	ND	2.1	0.48	ug/l	
100-52-7	Benzaldehyde	ND	5.3	0.31	ug/l	
56-55-3	Benzo(a)anthracene	ND	1.1	0.22	ug/l	
50-32-8	Benzo(a)pyrene	ND	1.1	0.23	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	1.1	0.22	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	1.1	0.36	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	1.1	0.22	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	2.1	0.43	ug/l	
85-68-7	Butyl benzyl phthalate	ND	2.1	0.49	ug/l	
92-52-4	1,1'-Biphenyl	ND	1.1	0.23	ug/l	
91-58-7	2-Chloronaphthalene	ND	2.1	0.25	ug/l	
106-47-8	4-Chloroaniline	ND	5.3	0.36	ug/l	
86-74-8	Carbazole	ND	1.1	0.24	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-7		
Lab Sample ID:	JC22206-3	**Date Sampled:**	06/10/16
Matrix:	AQ - Ground Water	**Date Received:**	06/15/16
Method:	SW846 8270D SW846 3510C	**Percent Solids:**	n/a
Project:	BMSMC, Building 5 Area, PR		

ABN TCL Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
105-60-2	Caprolactam	ND	2.1	0.69	ug/l	
218-01-9	Chrysene	ND	1.1	0.19	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	2.1	0.30	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	2.1	0.26	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	2.1	0.43	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	2.1	0.39	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	1.1	0.59	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	1.1	0.51	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	2.1	0.54	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	1.1	0.35	ug/l	
132-64-9	Dibenzofuran	ND	5.3	0.23	ug/l	
84-74-2	Di-n-butyl phthalate	ND	2.1	0.53	ug/l	
117-84-0	Di-n-octyl phthalate	ND	2.1	0.25	ug/l	
84-66-2	Diethyl phthalate	ND	2.1	0.28	ug/l	
131-11-3	Dimethyl phthalate	ND	2.1	0.23	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.1	1.8	ug/l	
206-44-0	Fluoranthene	ND	1.1	0.18	ug/l	
86-73-7	Fluorene	ND	1.1	0.18	ug/l	
118-74-1	Hexachlorobenzene	ND	1.1	0.35	ug/l	
87-68-3	Hexachlorobutadiene	ND	1.1	0.52	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	11	3.0	ug/l	
67-72-1	Hexachloroethane	ND	2.1	0.41	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	1.1	0.35	ug/l	
78-59-1	Isophorone	ND	2.1	0.29	ug/l	
90-12-0	1-Methylnaphthalene	ND	1.1	0.28	ug/l	
91-57-6	2-Methylnaphthalene	ND	1.1	0.22	ug/l	
88-74-4	2-Nitroaniline	ND	5.3	0.29	ug/l	
99-09-2	3-Nitroaniline	ND	5.3	0.41	ug/l	
100-01-6	4-Nitroaniline	ND	5.3	0.47	ug/l	
98-95-3	Nitrobenzene	ND	2.1	0.68	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	2.1	0.51	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.3	0.24	ug/l	
85-01-8	Phenanthrene	ND	1.1	0.19	ug/l	
129-00-0	Pyrene	ND	1.1	0.23	ug/l	
95-94-3	1,2,4,5-Tetrachlorobenzene	ND	2.1	0.39	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	53%		14-88%
4165-62-2	Phenol-d5	34%		10-110%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-7		
Lab Sample ID:	JC22206-3	**Date Sampled:**	06/10/16
Matrix:	AQ - Ground Water	**Date Received:**	06/15/16
Method:	SW846 8270D SW846 3510C	**Percent Solids:**	n/a
Project:	BMSMC, Building 5 Area, PR		

ABN TCL Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
118-79-6	2,4,6-Tribromophenol	112%		39-149%
4165-60-0	Nitrobenzene-d5	80%		32-128%
321-60-8	2-Fluorobiphenyl	85%		35-119%
1718-51-0	Terphenyl-d14	92%		10-126%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID:	MW-7		
Lab Sample ID:	JC22206-3	**Date Sampled:**	06/10/16
Matrix:	AQ - Ground Water	**Date Received:**	06/15/16
Method:	SW846 8270D BY SIM SW846 3510C	**Percent Solids:**	n/a
Project:	BMSMC, Building 5 Area, PR		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4M66458.D	1	06/29/16	LK	06/16/16	OP94835A	E4M2988
Run #2							

	Initial Volume	Final Volume
Run #1	940 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
91-20-3	Naphthalene	ND	0.11	0.031	ug/l	
123-91-1	1,4-Dioxane	1.36	0.11	0.052	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	76%		24-125%
321-60-8	2-Fluorobiphenyl	71%		19-127%
1718-51-0	Terphenyl-d14	98%		10-119%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID:	MW-7		
Lab Sample ID:	JC22206-3	**Date Sampled:**	06/10/16
Matrix:	AQ - Ground Water	**Date Received:**	06/15/16
Method:	SW846-8015C (DAI)	**Percent Solids:**	n/a
Project:	BMSMC, Building 5 Area, PR		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GH105530.D	1	06/16/16	XPL	n/a	n/a	GGH5324
Run #2							

Low Molecular Alcohol List

CAS No.	Compound	Result	RL	MDL	Units	Q
64-17-5	Ethanol	ND	100	55	ug/l	
78-83-1	Isobutyl Alcohol	ND	100	36	ug/l	
67-63-0	Isopropyl Alcohol	ND	100	68	ug/l	
71-23-8	n-Propyl Alcohol	ND	100	43	ug/l	
71-36-3	n-Butyl Alcohol	ND	100	87	ug/l	
78-92-2	sec-Butyl Alcohol	ND	100	66	ug/l	
67-56-1	Methanol	ND	200	71	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
111-27-3	Hexanol	102%		56-145%
111-27-3	Hexanol	109%		56-145%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID:	S-36		
Lab Sample ID:	JC22206-4	**Date Sampled:**	06/13/16
Matrix:	AQ - Ground Water	**Date Received:**	06/15/16
Method:	SW846 8270D SW846 3510C	**Percent Solids:**	n/a
Project:	BMSMC, Building 5 Area, PR		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F158384.D	1	06/27/16	BP	06/17/16	OP94859	EF6666
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

ABN TCL Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
95-57-8	2-Chlorophenol	ND	5.0	0.82	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	5.0	0.89	ug/l	
120-83-2	2,4-Dichlorophenol	ND	2.0	1.3	ug/l	
105-67-9	2,4-Dimethylphenol	ND	5.0	2.4	ug/l	
51-28-5	2,4-Dinitrophenol	ND	10	1.6	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	5.0	1.3	ug/l	
95-48-7	2-Methylphenol	ND	2.0	0.89	ug/l	
	3&4-Methylphenol	ND	2.0	0.88	ug/l	
88-75-5	2-Nitrophenol	ND	5.0	0.96	ug/l	
100-02-7	4-Nitrophenol	ND	10	1.2	ug/l	
87-86-5	Pentachlorophenol	ND	5.0	1.4	ug/l	
108-95-2	Phenol	ND	2.0	0.39	ug/l	
58-90-2	2,3,4,6-Tetrachlorophenol	ND	5.0	1.5	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	5.0	1.3	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	5.0	0.92	ug/l	
83-32-9	Acenaphthene	ND	1.0	0.19	ug/l	
208-96-8	Acenaphthylene	ND	1.0	0.14	ug/l	
98-86-2	Acetophenone	ND	2.0	0.21	ug/l	
120-12-7	Anthracene	ND	1.0	0.21	ug/l	
1912-24-9	Atrazine	ND	2.0	0.45	ug/l	
100-52-7	Benzaldehyde	ND	5.0	0.29	ug/l	
56-55-3	Benzo(a)anthracene	ND	1.0	0.20	ug/l	
50-32-8	Benzo(a)pyrene	ND	1.0	0.21	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	1.0	0.21	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	1.0	0.34	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	1.0	0.21	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	2.0	0.40	ug/l	
85-68-7	Butyl benzyl phthalate	ND	2.0	0.46	ug/l	
92-52-4	1,1'-Biphenyl	ND	1.0	0.21	ug/l	
91-58-7	2-Chloronaphthalene	ND	2.0	0.24	ug/l	
106-47-8	4-Chloroaniline	ND	5.0	0.34	ug/l	
86-74-8	Carbazole	ND	1.0	0.23	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	S-36		
Lab Sample ID:	JC22206-4	**Date Sampled:**	06/13/16
Matrix:	AQ - Ground Water	**Date Received:**	06/15/16
Method:	SW846 8270D SW846 3510C	**Percent Solids:**	n/a
Project:	BMSMC, Building 5 Area, PR		

ABN TCL Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
105-60-2	Caprolactam	ND	2.0	0.65	ug/l	
218-01-9	Chrysene	ND	1.0	0.18	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	2.0	0.28	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	2.0	0.25	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	2.0	0.40	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	2.0	0.37	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	1.0	0.55	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	1.0	0.48	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	2.0	0.51	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	1.0	0.33	ug/l	
132-64-9	Dibenzofuran	ND	5.0	0.22	ug/l	
84-74-2	Di-n-butyl phthalate	ND	2.0	0.50	ug/l	
117-84-0	Di-n-octyl phthalate	ND	2.0	0.23	ug/l	
84-66-2	Diethyl phthalate	ND	2.0	0.26	ug/l	
131-11-3	Dimethyl phthalate	ND	2.0	0.22	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	2.1	2.0	1.7	ug/l	
206-44-0	Fluoranthene	ND	1.0	0.17	ug/l	
86-73-7	Fluorene	ND	1.0	0.17	ug/l	
118-74-1	Hexachlorobenzene	ND	1.0	0.33	ug/l	
87-68-3	Hexachlorobutadiene	ND	1.0	0.49	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	10	2.8	ug/l	
67-72-1	Hexachloroethane	ND	2.0	0.39	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	1.0	0.33	ug/l	
78-59-1	Isophorone	ND	2.0	0.28	ug/l	
90-12-0	1-Methylnaphthalene	ND	1.0	0.26	ug/l	
91-57-6	2-Methylnaphthalene	ND	1.0	0.21	ug/l	
88-74-4	2-Nitroaniline	ND	5.0	0.28	ug/l	
99-09-2	3-Nitroaniline	ND	5.0	0.39	ug/l	
100-01-6	4-Nitroaniline	ND	5.0	0.44	ug/l	
98-95-3	Nitrobenzene	ND	2.0	0.64	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	2.0	0.48	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.0	0.22	ug/l	
85-01-8	Phenanthrene	ND	1.0	0.18	ug/l	
129-00-0	Pyrene	ND	1.0	0.22	ug/l	
95-94-3	1,2,4,5-Tetrachlorobenzene	ND	2.0	0.37	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	55%		14-88%
4165-62-2	Phenol-d5	36%		10-110%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	S-36		
Lab Sample ID:	JC22206-4	**Date Sampled:**	06/13/16
Matrix:	AQ - Ground Water	**Date Received:**	06/15/16
Method:	SW846 8270D SW846 3510C	**Percent Solids:**	n/a
Project:	BMSMC, Building 5 Area, PR		

ABN TCL Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
118-79-6	2,4,6-Tribromophenol	105%		39-149%
4165-60-0	Nitrobenzene-d5	82%		32-128%
321-60-8	2-Fluorobiphenyl	80%		35-119%
1718-51-0	Terphenyl-d14	89%		10-126%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID:	S-36		
Lab Sample ID:	JC22206-4	**Date Sampled:**	06/13/16
Matrix:	AQ - Ground Water	**Date Received:**	06/15/16
Method:	SW846 8270D BY SIM SW846 3510C	**Percent Solids:**	n/a
Project:	BMSMC, Building 5 Area, PR		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	4M66467.D	1	06/29/16	LK	06/17/16	OP94859A	E4M2989
Run #2 [b]	4M66525.D	1	07/01/16	JJ	06/30/16	OP95225A	E4M2991

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2	950 ml	1.0 ml

CAS No.	Compound	Result	RL	MDL	Units	Q
91-20-3	Naphthalene	ND	0.10	0.029	ug/l	
123-91-1	1,4-Dioxane	2.86	0.10	0.049	ug/l	B

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	95%	83%	24-125%
321-60-8	2-Fluorobiphenyl	102%	68%	19-127%
1718-51-0	Terphenyl-d14	94%	72%	10-119%

(a) There is compound contamination in MB. The results confirmed by re-extraction outside holding time.
(b) Confirmation run.

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QC # 1888

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID:	S-36		
Lab Sample ID:	JC22206-4	**Date Sampled:**	06/13/16
Matrix:	AQ - Ground Water	**Date Received:**	06/15/16
Method:	SW846-8015C (DAI)	**Percent Solids:**	n/a
Project:	BMSMC, Building 5 Area, PR		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GH105531.D	1	06/16/16	XPL	n/a	n/a	GGH5324
Run #2							

Low Molecular Alcohol List

CAS No.	Compound	Result	RL	MDL	Units	Q
64-17-5	Ethanol	ND	100	55	ug/l	
78-83-1	Isobutyl Alcohol	ND	100	36	ug/l	
67-63-0	Isopropyl Alcohol	ND	100	68	ug/l	
71-23-8	n-Propyl Alcohol	ND	100	43	ug/l	
71-36-3	n-Butyl Alcohol	ND	100	87	ug/l	
78-92-2	sec-Butyl Alcohol	ND	100	66	ug/l	
67-56-1	Methanol	ND	200	71	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
111-27-3	Hexanol	105%		56-145%
111-27-3	Hexanol	111%		56-145%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID:	S-36		
Lab Sample ID:	JC22206-4	**Date Sampled:**	06/13/16
Matrix:	AQ - Ground Water	**Date Received:**	06/15/16
Method:	SW846 8081B SW846 3510C	**Percent Solids:**	n/a
Project:	BMSMC, Building 5 Area, PR		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	6G36621.D	1	06/27/16	DS	06/17/16	OP94861	G6G1047
Run #2							

	Initial Volume	Final Volume
Run #1	930 ml	10.0 ml
Run #2		

Pesticide TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	0.011	0.0065	ug/l	
319-84-6	alpha-BHC	ND	0.011	0.0065	ug/l	
319-85-7	beta-BHC	ND	0.011	0.0061	ug/l	
319-86-8	delta-BHC	ND	0.011	0.0049	ug/l	
58-89-9	gamma-BHC (Lindane)	ND	0.011	0.0030	ug/l	
5103-71-9	alpha-Chlordane	ND	0.011	0.0050	ug/l	
5103-74-2	gamma-Chlordane	ND	0.011	0.0049	ug/l	
60-57-1	Dieldrin	ND	0.011	0.0039	ug/l	
72-54-8	4,4'-DDD	ND	0.011	0.0041	ug/l	
72-55-9	4,4'-DDE	ND	0.011	0.0066	ug/l	
50-29-3	4,4'-DDT	ND	0.011	0.0053	ug/l	
72-20-8	Endrin	ND	0.011	0.0054	ug/l	
1031-07-8	Endosulfan sulfate	ND	0.011	0.0056	ug/l	
7421-93-4	Endrin aldehyde	ND	0.011	0.0055	ug/l	
53494-70-5	Endrin ketone	ND	0.011	0.0055	ug/l	
959-98-8	Endosulfan-I	ND	0.011	0.0053	ug/l	
33213-65-9	Endosulfan-II	ND	0.011	0.0046	ug/l	
76-44-8	Heptachlor	ND	0.011	0.0041	ug/l	
1024-57-3	Heptachlor epoxide	ND	0.011	0.0070	ug/l	
72-43-5	Methoxychlor	ND	0.022	0.0061	ug/l	
8001-35-2	Toxaphene	ND	0.27	0.20	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	102%		26-132%
877-09-8	Tetrachloro-m-xylene	96%		26-132%
2051-24-3	Decachlorobiphenyl	85%		10-118%
2051-24-3	Decachlorobiphenyl	87%		10-118%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID:	S-36D		
Lab Sample ID:	JC22206-5	**Date Sampled:**	06/13/16
Matrix:	AQ - Ground Water	**Date Received:**	06/15/16
Method:	SW846 8270D SW846 3510C	**Percent Solids:**	n/a
Project:	BMSMC, Building 5 Area, PR		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F158385.D	1	06/27/16	BP	06/17/16	OP94859	EF6666
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

ABN TCL Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
95-57-8	2-Chlorophenol	ND	5.0	0.82	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	5.0	0.89	ug/l	
120-83-2	2,4-Dichlorophenol	ND	2.0	1.3	ug/l	
105-67-9	2,4-Dimethylphenol	ND	5.0	2.4	ug/l	
51-28-5	2,4-Dinitrophenol	ND	10	1.6	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	5.0	1.3	ug/l	
95-48-7	2-Methylphenol	ND	2.0	0.89	ug/l	
	3&4-Methylphenol	ND	2.0	0.88	ug/l	
88-75-5	2-Nitrophenol	ND	5.0	0.96	ug/l	
100-02-7	4-Nitrophenol	ND	10	1.2	ug/l	
87-86-5	Pentachlorophenol	ND	5.0	1.4	ug/l	
108-95-2	Phenol	ND	2.0	0.39	ug/l	
58-90-2	2,3,4,6-Tetrachlorophenol	ND	5.0	1.5	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	5.0	1.3	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	5.0	0.92	ug/l	
83-32-9	Acenaphthene	ND	1.0	0.19	ug/l	
208-96-8	Acenaphthylene	ND	1.0	0.14	ug/l	
98-86-2	Acetophenone	ND	2.0	0.21	ug/l	
120-12-7	Anthracene	ND	1.0	0.21	ug/l	
1912-24-9	Atrazine	ND	2.0	0.45	ug/l	
100-52-7	Benzaldehyde	ND	5.0	0.29	ug/l	
56-55-3	Benzo(a)anthracene	ND	1.0	0.20	ug/l	
50-32-8	Benzo(a)pyrene	ND	1.0	0.21	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	1.0	0.21	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	1.0	0.34	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	1.0	0.21	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	2.0	0.40	ug/l	
85-68-7	Butyl benzyl phthalate	ND	2.0	0.46	ug/l	
92-52-4	1,1'-Biphenyl	ND	1.0	0.21	ug/l	
91-58-7	2-Chloronaphthalene	ND	2.0	0.24	ug/l	
106-47-8	4-Chloroaniline	ND	5.0	0.34	ug/l	
86-74-8	Carbazole	ND	1.0	0.23	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	S-36D		
Lab Sample ID:	JC22206-5	**Date Sampled:**	06/13/16
Matrix:	AQ - Ground Water	**Date Received:**	06/15/16
Method:	SW846 8270D SW846 3510C	**Percent Solids:**	n/a
Project:	BMSMC, Building 5 Area, PR		

ABN TCL Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
105-60-2	Caprolactam	ND	2.0	0.65	ug/l	
218-01-9	Chrysene	ND	1.0	0.18	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	2.0	0.28	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	2.0	0.25	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	2.0	0.40	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	2.0	0.37	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	1.0	0.55	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	1.0	0.48	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	2.0	0.51	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	1.0	0.33	ug/l	
132-64-9	Dibenzofuran	ND	5.0	0.22	ug/l	
84-74-2	Di-n-butyl phthalate	ND	2.0	0.50	ug/l	
117-84-0	Di-n-octyl phthalate	ND	2.0	0.23	ug/l	
84-66-2	Diethyl phthalate	ND	2.0	0.26	ug/l	
131-11-3	Dimethyl phthalate	ND	2.0	0.22	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	18.9	2.0	1.7	ug/l	
206-44-0	Fluoranthene	ND	1.0	0.17	ug/l	
86-73-7	Fluorene	ND	1.0	0.17	ug/l	
118-74-1	Hexachlorobenzene	ND	1.0	0.33	ug/l	
87-68-3	Hexachlorobutadiene	ND	1.0	0.49	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	10	2.8	ug/l	
67-72-1	Hexachloroethane	ND	2.0	0.39	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	1.0	0.33	ug/l	
78-59-1	Isophorone	ND	2.0	0.28	ug/l	
90-12-0	1-Methylnaphthalene	ND	1.0	0.26	ug/l	
91-57-6	2-Methylnaphthalene	ND	1.0	0.21	ug/l	
88-74-4	2-Nitroaniline	ND	5.0	0.28	ug/l	
99-09-2	3-Nitroaniline	ND	5.0	0.39	ug/l	
100-01-6	4-Nitroaniline	ND	5.0	0.44	ug/l	
98-95-3	Nitrobenzene	ND	2.0	0.64	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	2.0	0.48	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.0	0.22	ug/l	
85-01-8	Phenanthrene	ND	1.0	0.18	ug/l	
129-00-0	Pyrene	ND	1.0	0.22	ug/l	
95-94-3	1,2,4,5-Tetrachlorobenzene	ND	2.0	0.37	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	51%		14-88%
4165-62-2	Phenol-d5	34%		10-110%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	S-36D		
Lab Sample ID:	JC22206-5	**Date Sampled:**	06/13/16
Matrix:	AQ - Ground Water	**Date Received:**	06/15/16
Method:	SW846 8270D SW846 3510C	**Percent Solids:**	n/a
Project:	BMSMC, Building 5 Area, PR		

ABN TCL Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
118-79-6	2,4,6-Tribromophenol	99%		39-149%
4165-60-0	Nitrobenzene-d5	81%		32-128%
321-60-8	2-Fluorobiphenyl	77%		35-119%
1718-51-0	Terphenyl-d14	80%		10-126%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID:	S-36D		
Lab Sample ID:	JC22206-5	**Date Sampled:**	06/13/16
Matrix:	AQ - Ground Water	**Date Received:**	06/15/16
Method:	SW846 8270D BY SIM SW846 3510C	**Percent Solids:**	n/a
Project:	BMSMC, Building 5 Area, PR		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	4M66468.D	1	06/29/16	LK	06/17/16	OP94859A	E4M2989
Run #2 [b]	4M66526.D	1	07/01/16	JJ	06/30/16	OP95225A	E4M2991

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2	950 ml	1.0 ml

CAS No.	Compound	Result	RL	MDL	Units	Q
91-20-3	Naphthalene	ND	0.10	0.029	ug/l	
123-91-1	1,4-Dioxane	3.46	0.10	0.049	ug/l	B

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	90%	74%	24-125%
321-60-8	2-Fluorobiphenyl	95%	60%	19-127%
1718-51-0	Terphenyl-d14	86%	77%	10-119%

(a) There is compound contamination in MB. The results confirmed by re-extraction outside holding time.
(b) Confirmation run.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID:	S-36D		
Lab Sample ID:	JC22206-5	**Date Sampled:**	06/13/16
Matrix:	AQ - Ground Water	**Date Received:**	06/15/16
Method:	SW846-8015C (DAI)	**Percent Solids:**	n/a
Project:	BMSMC, Building 5 Area, PR		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GH105532.D	1	06/16/16	XPL	n/a	n/a	GGH5324
Run #2							

Low Molecular Alcohol List

CAS No.	Compound	Result	RL	MDL	Units	Q
64-17-5	Ethanol	ND	100	55	ug/l	
78-83-1	Isobutyl Alcohol	ND	100	36	ug/l	
67-63-0	Isopropyl Alcohol	ND	100	68	ug/l	
71-23-8	n-Propyl Alcohol	ND	100	43	ug/l	
71-36-3	n-Butyl Alcohol	ND	100	87	ug/l	
78-92-2	sec-Butyl Alcohol	ND	100	66	ug/l	
67-56-1	Methanol	ND	200	71	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
111-27-3	Hexanol	108%		56-145%
111-27-3	Hexanol	117%		56-145%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Raw Data: 6G36622.D

SGS Accutest

Report of Analysis

Client Sample ID:	S-36D		
Lab Sample ID:	JC22206-5	**Date Sampled:**	06/13/16
Matrix:	AQ - Ground Water	**Date Received:**	06/15/16
Method:	SW846 8081B SW846 3510C	**Percent Solids:**	n/a
Project:	BMSMC, Building 5 Area, PR		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	6G36622.D	1	06/27/16	DS	06/17/16	OP94861	G6G1047
Run #2							

	Initial Volume	Final Volume
Run #1	980 ml	10.0 ml
Run #2		

Pesticide TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	0.010	0.0062	ug/l	
319-84-6	alpha-BHC	ND	0.010	0.0061	ug/l	
319-85-7	beta-BHC	ND	0.010	0.0058	ug/l	
319-86-8	delta-BHC	ND	0.010	0.0047	ug/l	
58-89-9	gamma-BHC (Lindane)	ND	0.010	0.0028	ug/l	
5103-71-9	alpha-Chlordane	ND	0.010	0.0047	ug/l	
5103-74-2	gamma-Chlordane	ND	0.010	0.0047	ug/l	
60-57-1	Dieldrin	ND	0.010	0.0037	ug/l	
72-54-8	4,4'-DDD	ND	0.010	0.0039	ug/l	
72-55-9	4,4'-DDE	ND	0.010	0.0063	ug/l	
50-29-3	4,4'-DDT	ND	0.010	0.0051	ug/l	
72-20-8	Endrin	ND	0.010	0.0051	ug/l	
1031-07-8	Endosulfan sulfate	ND	0.010	0.0054	ug/l	
7421-93-4	Endrin aldehyde	ND	0.010	0.0052	ug/l	
53494-70-5	Endrin ketone	ND	0.010	0.0052	ug/l	
959-98-8	Endosulfan-I	ND	0.010	0.0051	ug/l	
33213-65-9	Endosulfan-II	ND	0.010	0.0044	ug/l	
76-44-8	Heptachlor	ND	0.010	0.0039	ug/l	
1024-57-3	Heptachlor epoxide	ND	0.010	0.0067	ug/l	
72-43-5	Methoxychlor	ND	0.020	0.0058	ug/l	
8001-35-2	Toxaphene	ND	0.26	0.19	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	93%		26-132%
877-09-8	Tetrachloro-m-xylene	85%		26-132%
2051-24-3	Decachlorobiphenyl	76%		10-118%
2051-24-3	Decachlorobiphenyl	76%		10-118%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID:	S-37		
Lab Sample ID:	JC22206-6	**Date Sampled:**	06/13/16
Matrix:	AQ - Ground Water	**Date Received:**	06/15/16
Method:	SW846 8270D SW846 3510C	**Percent Solids:**	n/a
Project:	BMSMC, Building 5 Area, PR		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F158386.D	1	06/27/16	BP	06/17/16	OP94859	EF6666
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

ABN TCL Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
95-57-8	2-Chlorophenol	ND	5.0	0.82	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	5.0	0.89	ug/l	
120-83-2	2,4-Dichlorophenol	ND	2.0	1.3	ug/l	
105-67-9	2,4-Dimethylphenol	ND	5.0	2.4	ug/l	
51-28-5	2,4-Dinitrophenol	ND	10	1.6	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	5.0	1.3	ug/l	
95-48-7	2-Methylphenol	ND	2.0	0.89	ug/l	
	3&4-Methylphenol	ND	2.0	0.88	ug/l	
88-75-5	2-Nitrophenol	ND	5.0	0.96	ug/l	
100-02-7	4-Nitrophenol	ND	10	1.2	ug/l	
87-86-5	Pentachlorophenol	ND	5.0	1.4	ug/l	
108-95-2	Phenol	ND	2.0	0.39	ug/l	
58-90-2	2,3,4,6-Tetrachlorophenol	ND	5.0	1.5	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	5.0	1.3	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	5.0	0.92	ug/l	
83-32-9	Acenaphthene	ND	1.0	0.19	ug/l	
208-96-8	Acenaphthylene	ND	1.0	0.14	ug/l	
98-86-2	Acetophenone	ND	2.0	0.21	ug/l	
120-12-7	Anthracene	ND	1.0	0.21	ug/l	
1912-24-9	Atrazine	ND	2.0	0.45	ug/l	
100-52-7	Benzaldehyde	ND	5.0	0.29	ug/l	
56-55-3	Benzo(a)anthracene	ND	1.0	0.20	ug/l	
50-32-8	Benzo(a)pyrene	ND	1.0	0.21	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	1.0	0.21	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	1.0	0.34	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	1.0	0.21	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	2.0	0.40	ug/l	
85-68-7	Butyl benzyl phthalate	ND	2.0	0.46	ug/l	
92-52-4	1,1'-Biphenyl	ND	1.0	0.21	ug/l	
91-58-7	2-Chloronaphthalene	ND	2.0	0.24	ug/l	
106-47-8	4-Chloroaniline	ND	5.0	0.34	ug/l	
86-74-8	Carbazole	ND	1.0	0.23	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	S-37		
Lab Sample ID:	JC22206-6	**Date Sampled:**	06/13/16
Matrix:	AQ - Ground Water	**Date Received:**	06/15/16
Method:	SW846 8270D SW846 3510C	**Percent Solids:**	n/a
Project:	BMSMC, Building 5 Area, PR		

ABN TCL Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
105-60-2	Caprolactam	ND	2.0	0.65	ug/l	
218-01-9	Chrysene	ND	1.0	0.18	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	2.0	0.28	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	2.0	0.25	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	2.0	0.40	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	2.0	0.37	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	1.0	0.55	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	1.0	0.48	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	2.0	0.51	ug/l	
123-91-1	1,4-Dioxane	25.2	1.0	0.66	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	1.0	0.33	ug/l	
132-64-9	Dibenzofuran	ND	5.0	0.22	ug/l	
84-74-2	Di-n-butyl phthalate	ND	2.0	0.50	ug/l	
117-84-0	Di-n-octyl phthalate	ND	2.0	0.23	ug/l	
84-66-2	Diethyl phthalate	ND	2.0	0.26	ug/l	
131-11-3	Dimethyl phthalate	ND	2.0	0.22	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	2.0	2.0	1.7	ug/l	
206-44-0	Fluoranthene	ND	1.0	0.17	ug/l	
86-73-7	Fluorene	ND	1.0	0.17	ug/l	
118-74-1	Hexachlorobenzene	ND	1.0	0.33	ug/l	
87-68-3	Hexachlorobutadiene	ND	1.0	0.49	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	10	2.8	ug/l	
67-72-1	Hexachloroethane	ND	2.0	0.39	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	1.0	0.33	ug/l	
78-59-1	Isophorone	ND	2.0	0.28	ug/l	
90-12-0	1-Methylnaphthalene	ND	1.0	0.26	ug/l	
91-57-6	2-Methylnaphthalene	ND	1.0	0.21	ug/l	
88-74-4	2-Nitroaniline	ND	5.0	0.28	ug/l	
99-09-2	3-Nitroaniline	ND	5.0	0.39	ug/l	
100-01-6	4-Nitroaniline	ND	5.0	0.44	ug/l	
98-95-3	Nitrobenzene	ND	2.0	0.64	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	2.0	0.48	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.0	0.22	ug/l	
85-01-8	Phenanthrene	ND	1.0	0.18	ug/l	
129-00-0	Pyrene	ND	1.0	0.22	ug/l	
95-94-3	1,2,4,5-Tetrachlorobenzene	ND	2.0	0.37	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	55%		14-88%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	S-37		
Lab Sample ID:	JC22206-6	**Date Sampled:**	06/13/16
Matrix:	AQ - Ground Water	**Date Received:**	06/15/16
Method:	SW846 8270D SW846 3510C	**Percent Solids:**	n/a
Project:	BMSMC, Building 5 Area, PR		

ABN TCL Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-62-2	Phenol-d5	36%		10-110%
118-79-6	2,4,6-Tribromophenol	104%		39-149%
4165-60-0	Nitrobenzene-d5	78%		32-128%
321-60-8	2-Fluorobiphenyl	75%		35-119%
1718-51-0	Terphenyl-d14	90%		10-126%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID:	S-37		
Lab Sample ID:	JC22206-6	**Date Sampled:**	06/13/16
Matrix:	AQ - Ground Water	**Date Received:**	06/15/16
Method:	SW846 8270D BY SIM SW846 3510C	**Percent Solids:**	n/a
Project:	BMSMC, Building 5 Area, PR		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4M66469.D	1	06/29/16	LK	06/17/16	OP94859A	E4M2989
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
91-20-3	Naphthalene	ND	0.10	0.029	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	86%		24-125%
321-60-8	2-Fluorobiphenyl	90%		19-127%
1718-51-0	Terphenyl-d14	97%		10-119%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID:	S-37		
Lab Sample ID:	JC22206-6	**Date Sampled:**	06/13/16
Matrix:	AQ - Ground Water	**Date Received:**	06/15/16
Method:	SW846-8015C (DAI)	**Percent Solids:**	n/a
Project:	BMSMC, Building 5 Area, PR		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GH105535.D	1	06/16/16	XPL	n/a	n/a	GGH5324
Run #2							

Low Molecular Alcohol List

CAS No.	Compound	Result	RL	MDL	Units	Q
64-17-5	Ethanol	ND	100	55	ug/l	
78-83-1	Isobutyl Alcohol	ND	100	36	ug/l	
67-63-0	Isopropyl Alcohol	ND	100	68	ug/l	
71-23-8	n-Propyl Alcohol	ND	100	43	ug/l	
71-36-3	n-Butyl Alcohol	ND	100	87	ug/l	
78-92-2	sec-Butyl Alcohol	ND	100	66	ug/l	
67-56-1	Methanol	ND	200	71	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
111-27-3	Hexanol	104%		56-145%
111-27-3	Hexanol	107%		56-145%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Raw Data: 6G36623.D

SGS Accutest

Report of Analysis

Client Sample ID:	S-37		
Lab Sample ID:	JC22206-6	Date Sampled:	06/13/16
Matrix:	AQ - Ground Water	Date Received:	06/15/16
Method:	SW846 8081B SW846 3510C	Percent Solids:	n/a
Project:	BMSMC, Building 5 Area, PR		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	6G36623.D	1	06/27/16	DS	06/17/16	OP94861	G6G1047
Run #2							

	Initial Volume	Final Volume
Run #1	960 ml	10.0 ml
Run #2		

Pesticide TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	0.010	0.0063	ug/l	
319-84-6	alpha-BHC	ND	0.010	0.0063	ug/l	
319-85-7	beta-BHC	ND	0.010	0.0059	ug/l	
319-86-8	delta-BHC	ND	0.010	0.0048	ug/l	
58-89-9	gamma-BHC (Lindane)	ND	0.010	0.0029	ug/l	
5103-71-9	alpha-Chlordane	ND	0.010	0.0048	ug/l	
5103-74-2	gamma-Chlordane	ND	0.010	0.0048	ug/l	
60-57-1	Dieldrin	ND	0.010	0.0038	ug/l	
72-54-8	4,4'-DDD	ND	0.010	0.0040	ug/l	
72-55-9	4,4'-DDE	ND	0.010	0.0064	ug/l	
50-29-3	4,4'-DDT	ND	0.010	0.0052	ug/l	
72-20-8	Endrin	ND	0.010	0.0053	ug/l	
1031-07-8	Endosulfan sulfate	ND	0.010	0.0055	ug/l	
7421-93-4	Endrin aldehyde	ND	0.010	0.0053	ug/l	
53494-70-5	Endrin ketone	ND	0.010	0.0053	ug/l	
959-98-8	Endosulfan-I	ND	0.010	0.0052	ug/l	
33213-65-9	Endosulfan-II	ND	0.010	0.0045	ug/l	
76-44-8	Heptachlor	ND	0.010	0.0040	ug/l	
1024-57-3	Heptachlor epoxide	ND	0.010	0.0068	ug/l	
72-43-5	Methoxychlor	ND	0.021	0.0059	ug/l	
8001-35-2	Toxaphene	ND	0.26	0.19	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	105%		26-132%
877-09-8	Tetrachloro-m-xylene	103%		26-132%
2051-24-3	Decachlorobiphenyl	91%		10-118%
2051-24-3	Decachlorobiphenyl	98%		10-118%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID:	S-35		
Lab Sample ID:	JC22206-7	**Date Sampled:**	06/13/16
Matrix:	AQ - Ground Water	**Date Received:**	06/15/16
Method:	SW846 8270D SW846 3510C	**Percent Solids:**	n/a
Project:	BMSMC, Building 5 Area, PR		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F158387.D	1	06/27/16	BP	06/17/16	OP94859	EF6666
Run #2	F158442.D	10	06/28/16	BP	06/17/16	OP94859	EF6668

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2	1000 ml	1.0 ml

ABN TCL Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
95-57-8	2-Chlorophenol	ND	5.0	0.82	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	5.0	0.89	ug/l	
120-83-2	2,4-Dichlorophenol	ND	2.0	1.3	ug/l	
105-67-9	2,4-Dimethylphenol	ND	5.0	2.4	ug/l	
51-28-5	2,4-Dinitrophenol	ND	10	1.6	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	5.0	1.3	ug/l	
95-48-7	2-Methylphenol	ND	2.0	0.89	ug/l	
	3&4-Methylphenol	ND	2.0	0.88	ug/l	
88-75-5	2-Nitrophenol	ND	5.0	0.96	ug/l	
100-02-7	4-Nitrophenol	ND	10	1.2	ug/l	
87-86-5	Pentachlorophenol	ND	5.0	1.4	ug/l	
108-95-2	Phenol	ND	2.0	0.39	ug/l	
58-90-2	2,3,4,6-Tetrachlorophenol	ND	5.0	1.5	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	5.0	1.3	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	5.0	0.92	ug/l	
83-32-9	Acenaphthene	ND	1.0	0.19	ug/l	
208-96-8	Acenaphthylene	ND	1.0	0.14	ug/l	
98-86-2	Acetophenone	ND	2.0	0.21	ug/l	
120-12-7	Anthracene	ND	1.0	0.21	ug/l	
1912-24-9	Atrazine	ND	2.0	0.45	ug/l	
100-52-7	Benzaldehyde	ND	5.0	0.29	ug/l	
56-55-3	Benzo(a)anthracene	ND	1.0	0.20	ug/l	
50-32-8	Benzo(a)pyrene	ND	1.0	0.21	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	1.0	0.21	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	1.0	0.34	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	1.0	0.21	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	2.0	0.40	ug/l	
85-68-7	Butyl benzyl phthalate	ND	2.0	0.46	ug/l	
92-52-4	1,1'-Biphenyl	ND	1.0	0.21	ug/l	
91-58-7	2-Chloronaphthalene	ND	2.0	0.24	ug/l	
106-47-8	4-Chloroaniline	ND	5.0	0.34	ug/l	
86-74-8	Carbazole	ND	1.0	0.23	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

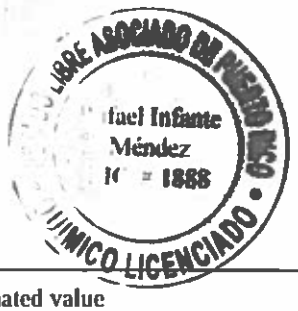
Report of Analysis

Client Sample ID:	S-35		
Lab Sample ID:	JC22206-7	**Date Sampled:**	06/13/16
Matrix:	AQ - Ground Water	**Date Received:**	06/15/16
Method:	SW846 8270D SW846 3510C	**Percent Solids:**	n/a
Project:	BMSMC, Building 5 Area, PR		

ABN TCL Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
105-60-2	Caprolactam	ND	2.0	0.65	ug/l	
218-01-9	Chrysene	ND	1.0	0.18	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	2.0	0.28	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	2.0	0.25	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	2.0	0.40	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	2.0	0.37	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	1.0	0.55	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	1.0	0.48	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	2.0	0.51	ug/l	
123-91-1	1,4-Dioxane	307 [a]	10	6.6	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	1.0	0.33	ug/l	
132-64-9	Dibenzofuran	ND	5.0	0.22	ug/l	
84-74-2	Di-n-butyl phthalate	ND	2.0	0.50	ug/l	
117-84-0	Di-n-octyl phthalate	ND	2.0	0.23	ug/l	
84-66-2	Diethyl phthalate	ND	2.0	0.26	ug/l	
131-11-3	Dimethyl phthalate	ND	2.0	0.22	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	2.5	2.0	1.7	ug/l	
206-44-0	Fluoranthene	ND	1.0	0.17	ug/l	
86-73-7	Fluorene	ND	1.0	0.17	ug/l	
118-74-1	Hexachlorobenzene	ND	1.0	0.33	ug/l	
87-68-3	Hexachlorobutadiene	ND	1.0	0.49	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	10	2.8	ug/l	
67-72-1	Hexachloroethane	ND	2.0	0.39	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	1.0	0.33	ug/l	
78-59-1	Isophorone	ND	2.0	0.28	ug/l	
90-12-0	1-Methylnaphthalene	ND	1.0	0.26	ug/l	
91-57-6	2-Methylnaphthalene	ND	1.0	0.21	ug/l	
88-74-4	2-Nitroaniline	ND	5.0	0.28	ug/l	
99-09-2	3-Nitroaniline	ND	5.0	0.39	ug/l	
100-01-6	4-Nitroaniline	ND	5.0	0.44	ug/l	
98-95-3	Nitrobenzene	ND	2.0	0.64	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	2.0	0.48	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.0	0.22	ug/l	
85-01-8	Phenanthrene	ND	1.0	0.18	ug/l	
129-00-0	Pyrene	ND	1.0	0.22	ug/l	
95-94-3	1,2,4,5-Tetrachlorobenzene	ND	2.0	0.37	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	52%	51%	14-88%



ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	S-35		
Lab Sample ID:	JC22206-7	**Date Sampled:**	06/13/16
Matrix:	AQ - Ground Water	**Date Received:**	06/15/16
Method:	SW846 8270D SW846 3510C	**Percent Solids:**	n/a
Project:	BMSMC, Building 5 Area, PR		

ABN TCL Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-62-2	Phenol-d5	34%	35%	10-110%
118-79-6	2,4,6-Tribromophenol	97%	92%	39-149%
4165-60-0	Nitrobenzene-d5	78%	82%	32-128%
321-60-8	2-Fluorobiphenyl	75%	81%	35-119%
1718-51-0	Terphenyl-d14	82%	90%	10-126%

(a) Result is from Run# 2

SGS Accutest

Report of Analysis

Client Sample ID:	S-35		
Lab Sample ID:	JC22206-7	**Date Sampled:**	06/13/16
Matrix:	AQ - Ground Water	**Date Received:**	06/15/16
Method:	SW846 8270D BY SIM SW846 3510C	**Percent Solids:**	n/a
Project:	BMSMC, Building 5 Area, PR		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4M66470.D	1	06/29/16	LK	06/17/16	OP94859A	E4M2989
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
91-20-3	Naphthalene	ND	0.10	0.029	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	78%		24-125%
321-60-8	2-Fluorobiphenyl	83%		19-127%
1718-51-0	Terphenyl-d14	74%		10-119%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID:	S-35		
Lab Sample ID:	JC22206-7	**Date Sampled:**	06/13/16
Matrix:	AQ - Ground Water	**Date Received:**	06/15/16
Method:	SW846-8015C (DAI)	**Percent Solids:**	n/a
Project:	BMSMC, Building 5 Area, PR		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GH105536.D	1	06/16/16	XPL	n/a	n/a	GGH5324
Run #2							

Low Molecular Alcohol List

CAS No.	Compound	Result	RL	MDL	Units	Q
64-17-5	Ethanol	ND	100	55	ug/l	
78-83-1	Isobutyl Alcohol	ND	100	36	ug/l	
67-63-0	Isopropyl Alcohol	ND	100	68	ug/l	
71-23-8	n-Propyl Alcohol	ND	100	43	ug/l	
71-36-3	n-Butyl Alcohol	ND	100	87	ug/l	
78-92-2	sec-Butyl Alcohol	ND	100	66	ug/l	
67-56-1	Methanol	ND	200	71	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
111-27-3	Hexanol	106%		56-145%
111-27-3	Hexanol	115%		56-145%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID:	S-35		
Lab Sample ID:	JC22206-7	**Date Sampled:**	06/13/16
Matrix:	AQ - Ground Water	**Date Received:**	06/15/16
Method:	SW846 8081B SW846 3510C	**Percent Solids:**	n/a
Project:	BMSMC, Building 5 Area, PR		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	6G36624.D	1	06/27/16	DS	06/17/16	OP94861	G6G1047
Run #2							

	Initial Volume	Final Volume
Run #1	930 ml	10.0 ml
Run #2		

Pesticide TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	0.011	0.0065	ug/l	
319-84-6	alpha-BHC	ND	0.011	0.0065	ug/l	
319-85-7	beta-BHC	ND	0.011	0.0061	ug/l	
319-86-8	delta-BHC	ND	0.011	0.0049	ug/l	
58-89-9	gamma-BHC (Lindane)	ND	0.011	0.0030	ug/l	
5103-71-9	alpha-Chlordane	ND	0.011	0.0050	ug/l	
5103-74-2	gamma-Chlordane	ND	0.011	0.0049	ug/l	
60-57-1	Dieldrin	ND	0.011	0.0039	ug/l	
72-54-8	4,4'-DDD	ND	0.011	0.0041	ug/l	
72-55-9	4,4'-DDE	ND	0.011	0.0066	ug/l	
50-29-3	4,4'-DDT	ND	0.011	0.0053	ug/l	
72-20-8	Endrin	ND	0.011	0.0054	ug/l	
1031-07-8	Endosulfan sulfate	ND	0.011	0.0056	ug/l	
7421-93-4	Endrin aldehyde	ND	0.011	0.0055	ug/l	
53494-70-5	Endrin ketone	ND	0.011	0.0055	ug/l	
959-98-8	Endosulfan-I	ND	0.011	0.0053	ug/l	
33213-65-9	Endosulfan-II	ND	0.011	0.0046	ug/l	
76-44-8	Heptachlor	ND	0.011	0.0041	ug/l	
1024-57-3	Heptachlor epoxide	ND	0.011	0.0070	ug/l	
72-43-5	Methoxychlor	ND	0.022	0.0061	ug/l	
8001-35-2	Toxaphene	ND	0.27	0.20	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	114%		26-132%
877-09-8	Tetrachloro-m-xylene	110%		26-132%
2051-24-3	Decachlorobiphenyl	107%		10-118%
2051-24-3	Decachlorobiphenyl	110%		10-118%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID:	S-32		
Lab Sample ID:	JC22206-8	**Date Sampled:**	06/13/16
Matrix:	AQ - Ground Water	**Date Received:**	06/15/16
Method:	SW846 8270D SW846 3510C	**Percent Solids:**	n/a
Project:	BMSMC, Building 5 Area, PR		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F158388.D	1	06/27/16	BP	06/17/16	OP94859	EF6666
Run #2 [a]	Z111971.D	1	06/29/16	AC	06/28/16	OP95160	EZ5596

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2	930 ml	1.0 ml

ABN TCL Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
95-57-8	2-Chlorophenol	ND	5.0	0.82	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	5.0	0.89	ug/l	
120-83-2	2,4-Dichlorophenol	ND	2.0	1.3	ug/l	
105-67-9	2,4-Dimethylphenol	67.8	5.0	2.4	ug/l	
51-28-5	2,4-Dinitrophenol	ND	10	1.6	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	5.0	1.3	ug/l	
95-48-7	2-Methylphenol	1.1	2.0	0.89	ug/l	J
	3&4-Methylphenol	ND	2.0	0.88	ug/l	
88-75-5	2-Nitrophenol	ND	5.0	0.96	ug/l	
100-02-7	4-Nitrophenol	ND	10	1.2	ug/l	
87-86-5	Pentachlorophenol	ND	5.0	1.4	ug/l	
108-95-2	Phenol	ND	2.0	0.39	ug/l	
58-90-2	2,3,4,6-Tetrachlorophenol	ND	5.0	1.5	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	5.0	1.3	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	5.0	0.92	ug/l	
83-32-9	Acenaphthene	ND	1.0	0.19	ug/l	
208-96-8	Acenaphthylene	ND	1.0	0.14	ug/l	
98-86-2	Acetophenone	33.1	2.0	0.21	ug/l	
120-12-7	Anthracene	ND	1.0	0.21	ug/l	
1912-24-9	Atrazine	ND	2.0	0.45	ug/l	
100-52-7	Benzaldehyde	ND	5.0	0.29	ug/l	
56-55-3	Benzo(a)anthracene	ND	1.0	0.20	ug/l	
50-32-8	Benzo(a)pyrene	ND	1.0	0.21	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	1.0	0.21	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	1.0	0.34	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	1.0	0.21	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	2.0	0.40	ug/l	
85-68-7	Butyl benzyl phthalate	ND	2.0	0.46	ug/l	
92-52-4	1,1'-Biphenyl	ND	1.0	0.21	ug/l	
91-58-7	2-Chloronaphthalene	ND	2.0	0.24	ug/l	
106-47-8	4-Chloroaniline	ND	5.0	0.34	ug/l	
86-74-8	Carbazole	ND	1.0	0.23	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	S-32		
Lab Sample ID:	JC22206-8	**Date Sampled:**	06/13/16
Matrix:	AQ - Ground Water	**Date Received:**	06/15/16
Method:	SW846 8270D SW846 3510C	**Percent Solids:**	n/a
Project:	BMSMC, Building 5 Area, PR		

ABN TCL Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
105-60-2	Caprolactam	ND	2.0	0.65	ug/l	
218-01-9	Chrysene	ND	1.0	0.18	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	2.0	0.28	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	2.0	0.25	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	2.0	0.40	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	2.0	0.37	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	1.0	0.55	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	1.0	0.48	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	2.0	0.51	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	1.0	0.33	ug/l	
132-64-9	Dibenzofuran	ND	5.0	0.22	ug/l	
84-74-2	Di-n-butyl phthalate	ND	2.0	0.50	ug/l	
117-84-0	Di-n-octyl phthalate	ND	2.0	0.23	ug/l	
84-66-2	Diethyl phthalate	ND	2.0	0.26	ug/l	
131-11-3	Dimethyl phthalate	ND	2.0	0.22	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.0	1.7	ug/l	
206-44-0	Fluoranthene	ND	1.0	0.17	ug/l	
86-73-7	Fluorene	ND	1.0	0.17	ug/l	
118-74-1	Hexachlorobenzene	ND	1.0	0.33	ug/l	
87-68-3	Hexachlorobutadiene	ND	1.0	0.49	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	10	2.8	ug/l	
67-72-1	Hexachloroethane	ND	2.0	0.39	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	1.0	0.33	ug/l	
78-59-1	Isophorone	ND	2.0	0.28	ug/l	
90-12-0	1-Methylnaphthalene	ND	1.0	0.26	ug/l	
91-57-6	2-Methylnaphthalene	ND	1.0	0.21	ug/l	
88-74-4	2-Nitroaniline	ND	5.0	0.28	ug/l	
99-09-2	3-Nitroaniline	ND	5.0	0.39	ug/l	
100-01-6	4-Nitroaniline	ND	5.0	0.44	ug/l	
98-95-3	Nitrobenzene	ND	2.0	0.64	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	2.0	0.48	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.0	0.22	ug/l	
85-01-8	Phenanthrene	ND	1.0	0.18	ug/l	
129-00-0	Pyrene	ND	1.0	0.22	ug/l	
95-94-3	1,2,4,5-Tetrachlorobenzene	ND	2.0	0.37	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	4% [c]	6% [b]	14-88%
4165-62-2	Phenol-d5	33%	41%	10-110%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	S-32		
Lab Sample ID:	JC22206-8	**Date Sampled:**	06/13/16
Matrix:	AQ - Ground Water	**Date Received:**	06/15/16
Method:	SW846 8270D SW846 3510C	**Percent Solids:**	n/a
Project:	BMSMC, Building 5 Area, PR		

ABN TCL Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
118-79-6	2,4,6-Tribromophenol	108%	82%	39-149%
4165-60-0	Nitrobenzene-d5	91%	85%	32-128%
321-60-8	2-Fluorobiphenyl	88%	76%	35-119%
1718-51-0	Terphenyl-d14	82%	63%	10-126%

(a) Confirmation run for surrogate recoveries.
(b) Outside control limits due to matrix interference.
(c) Outside control limits due to matrix interference. Confirmed by re-extraction.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID:	S-32		
Lab Sample ID:	JC22206-8	**Date Sampled:**	06/13/16
Matrix:	AQ - Ground Water	**Date Received:**	06/15/16
Method:	SW846 8270D BY SIM SW846 3510C	**Percent Solids:**	n/a
Project:	BMSMC, Building 5 Area, PR		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4M66487.D	1	06/30/16	LK	06/17/16	OP94859A	E4M2990
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
91-20-3	Naphthalene	0.372	0.10	0.029	ug/l	
123-91-1	1,4-Dioxane	3.18	0.10	0.049	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	75%		24-125%
321-60-8	2-Fluorobiphenyl	59%		19-127%
1718-51-0	Terphenyl-d14	94%		10-119%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID:	S-32		
Lab Sample ID:	JC22206-8	**Date Sampled:**	06/13/16
Matrix:	AQ - Ground Water	**Date Received:**	06/15/16
Method:	SW846-8015C (DAI)	**Percent Solids:**	n/a
Project:	BMSMC, Building 5 Area, PR		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GH105537.D	1	06/16/16	XPL	n/a	n/a	GGH5324
Run #2							

Low Molecular Alcohol List

CAS No.	Compound	Result	RL	MDL	Units	Q
64-17-5	Ethanol	ND	100	55	ug/l	
78-83-1	Isobutyl Alcohol	ND	100	36	ug/l	
67-63-0	Isopropyl Alcohol	ND	100	68	ug/l	
71-23-8	n-Propyl Alcohol	ND	100	43	ug/l	
71-36-3	n-Butyl Alcohol	ND	100	87	ug/l	
78-92-2	sec-Butyl Alcohol	ND	100	66	ug/l	
67-56-1	Methanol	ND	200	71	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
111-27-3	Hexanol	96%		56-145%
111-27-3	Hexanol	128%		56-145%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID:	S-32		
Lab Sample ID:	JC22206-8	**Date Sampled:**	06/13/16
Matrix:	AQ - Ground Water	**Date Received:**	06/15/16
Method:	SW846 8081B SW846 3510C	**Percent Solids:**	n/a
Project:	BMSMC, Building 5 Area, PR		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	6G36670.D	5	06/28/16	KD	06/17/16	OP94861	G6G1048
Run #2 [a]	6G36625.D	1	06/27/16	DS	06/17/16	OP94861	G6G1047

	Initial Volume	Final Volume
Run #1	960 ml	10.0 ml
Run #2	960 ml	10.0 ml

Pesticide TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	0.052	0.031	ug/l	
319-84-6	alpha-BHC	ND	0.052	0.031	ug/l	
319-85-7	beta-BHC	ND	0.052	0.030	ug/l	
319-86-8	delta-BHC	ND	0.052	0.024	ug/l	
58-89-9	gamma-BHC (Lindane)	ND	0.052	0.014	ug/l	
5103-71-9	alpha-Chlordane	ND	0.052	0.024	ug/l	
5103-74-2	gamma-Chlordane	ND	0.052	0.024	ug/l	
60-57-1	Dieldrin	ND	0.052	0.019	ug/l	
72-54-8	4,4'-DDD	ND	0.052	0.020	ug/l	
72-55-9	4,4'-DDE	ND	0.052	0.032	ug/l	
50-29-3	4,4'-DDT	ND	0.052	0.026	ug/l	
72-20-8	Endrin	ND	0.052	0.026	ug/l	
1031-07-8	Endosulfan sulfate	ND	0.052	0.027	ug/l	
7421-93-4	Endrin aldehyde	ND	0.052	0.027	ug/l	
53494-70-5	Endrin ketone	ND	0.052	0.026	ug/l	
959-98-8	Endosulfan-I	ND	0.052	0.026	ug/l	
33213-65-9	Endosulfan-II	ND	0.052	0.022	ug/l	
76-44-8	Heptachlor	ND	0.052	0.020	ug/l	
1024-57-3	Heptachlor epoxide	ND	0.052	0.034	ug/l	
72-43-5	Methoxychlor	ND	0.10	0.030	ug/l	
8001-35-2	Toxaphene	ND	1.3	0.96	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	44%	13% [b]	26-132%
877-09-8	Tetrachloro-m-xylene	82%	39%	26-132%
2051-24-3	Decachlorobiphenyl	31%	8% [b]	10-118%
2051-24-3	Decachlorobiphenyl	49%	28%	10-118%

(a) Confirmation run.
(b) Outside control limits due to matrix interference with the internal standard.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID:	RA-10S		
Lab Sample ID:	JC22206-9	**Date Sampled:**	06/14/16
Matrix:	AQ - Ground Water	**Date Received:**	06/15/16
Method:	SW846 8270D SW846 3510C	**Percent Solids:**	n/a
Project:	BMSMC, Building 5 Area, PR		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F158389.D	1	06/27/16	BP	06/17/16	OP94859	EF6666
Run #2	F158443.D	50	06/28/16	BP	06/17/16	OP94859	EF6668

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2	1000 ml	1.0 ml

ABN TCL Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
95-57-8	2-Chlorophenol	ND	5.0	0.82	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	5.0	0.89	ug/l	
120-83-2	2,4-Dichlorophenol	ND	2.0	1.3	ug/l	
105-67-9	2,4-Dimethylphenol	ND	5.0	2.4	ug/l	
51-28-5	2,4-Dinitrophenol	ND	10	1.6	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	5.0	1.3	ug/l	
95-48-7	2-Methylphenol	ND	2.0	0.89	ug/l	
	3&4-Methylphenol	ND	2.0	0.88	ug/l	
88-75-5	2-Nitrophenol	ND	5.0	0.96	ug/l	
100-02-7	4-Nitrophenol	ND	10	1.2	ug/l	
87-86-5	Pentachlorophenol	ND	5.0	1.4	ug/l	
108-95-2	Phenol	ND	2.0	0.39	ug/l	
58-90-2	2,3,4,6-Tetrachlorophenol	ND	5.0	1.5	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	5.0	1.3	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	5.0	0.92	ug/l	
83-32-9	Acenaphthene	ND	1.0	0.19	ug/l	
208-96-8	Acenaphthylene	ND	1.0	0.14	ug/l	
98-86-2	Acetophenone	ND	2.0	0.21	ug/l	
120-12-7	Anthracene	ND	1.0	0.21	ug/l	
1912-24-9	Atrazine	ND	2.0	0.45	ug/l	
100-52-7	Benzaldehyde	ND	5.0	0.29	ug/l	
56-55-3	Benzo(a)anthracene	ND	1.0	0.20	ug/l	
50-32-8	Benzo(a)pyrene	ND	1.0	0.21	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	1.0	0.21	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	1.0	0.34	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	1.0	0.21	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	2.0	0.40	ug/l	
85-68-7	Butyl benzyl phthalate	ND	2.0	0.46	ug/l	
92-52-4	1,1'-Biphenyl	ND	1.0	0.21	ug/l	
91-58-7	2-Chloronaphthalene	ND	2.0	0.24	ug/l	
106-47-8	4-Chloroaniline	ND	5.0	0.34	ug/l	
86-74-8	Carbazole	ND	1.0	0.23	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RA-10S		
Lab Sample ID:	JC22206-9	**Date Sampled:**	06/14/16
Matrix:	AQ - Ground Water	**Date Received:**	06/15/16
Method:	SW846 8270D SW846 3510C	**Percent Solids:**	n/a
Project:	BMSMC, Building 5 Area, PR		

ABN TCL Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
105-60-2	Caprolactam	ND	2.0	0.65	ug/l	
218-01-9	Chrysene	ND	1.0	0.18	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	2.0	0.28	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	2.0	0.25	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	2.0	0.40	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	2.0	0.37	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	1.0	0.55	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	1.0	0.48	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	2.0	0.51	ug/l	
123-91-1	1,4-Dioxane	1530 [a]	50	33	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	1.0	0.33	ug/l	
132-64-9	Dibenzofuran	ND	5.0	0.22	ug/l	
84-74-2	Di-n-butyl phthalate	ND	2.0	0.50	ug/l	
117-84-0	Di-n-octyl phthalate	ND	2.0	0.23	ug/l	
84-66-2	Diethyl phthalate	ND	2.0	0.26	ug/l	
131-11-3	Dimethyl phthalate	ND	2.0	0.22	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.0	1.7	ug/l	
206-44-0	Fluoranthene	ND	1.0	0.17	ug/l	
86-73-7	Fluorene	ND	1.0	0.17	ug/l	
118-74-1	Hexachlorobenzene	ND	1.0	0.33	ug/l	
87-68-3	Hexachlorobutadiene	ND	1.0	0.49	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	10	2.8	ug/l	
67-72-1	Hexachloroethane	ND	2.0	0.39	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	1.0	0.33	ug/l	
78-59-1	Isophorone	ND	2.0	0.28	ug/l	
90-12-0	1-Methylnaphthalene	ND	1.0	0.26	ug/l	
91-57-6	2-Methylnaphthalene	ND	1.0	0.21	ug/l	
88-74-4	2-Nitroaniline	ND	5.0	0.28	ug/l	
99-09-2	3-Nitroaniline	ND	5.0	0.39	ug/l	
100-01-6	4-Nitroaniline	ND	5.0	0.44	ug/l	
98-95-3	Nitrobenzene	ND	2.0	0.64	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	2.0	0.48	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.0	0.22	ug/l	
85-01-8	Phenanthrene	ND	1.0	0.18	ug/l	
129-00-0	Pyrene	ND	1.0	0.22	ug/l	
95-94-3	1,2,4,5-Tetrachlorobenzene	ND	2.0	0.37	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	54%	0% [b]	14-88%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RA-10S		
Lab Sample ID:	JC22206-9	**Date Sampled:**	06/14/16
Matrix:	AQ - Ground Water	**Date Received:**	06/15/16
Method:	SW846 8270D SW846 3510C	**Percent Solids:**	n/a
Project:	BMSMC, Building 5 Area, PR		

ABN TCL Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-62-2	Phenol-d5	34%	0% [b]	10-110%
118-79-6	2,4,6-Tribromophenol	110%	0% [b]	39-149%
4165-60-0	Nitrobenzene-d5	86%	0% [b]	32-128%
321-60-8	2-Fluorobiphenyl	84%	0% [b]	35-119%
1718-51-0	Terphenyl-d14	90%	0% [b]	10-126%

(a) Result is from Run# 2
(b) Outside control limits due to dilution.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID:	RA-10S		
Lab Sample ID:	JC22206-9	**Date Sampled:**	06/14/16
Matrix:	AQ - Ground Water	**Date Received:**	06/15/16
Method:	SW846 8270D BY SIM SW846 3510C	**Percent Solids:**	n/a
Project:	BMSMC, Building 5 Area, PR		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4M66472.D	1	06/29/16	LK	06/17/16	OP94859A	E4M2989
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
91-20-3	Naphthalene	0.846	0.10	0.029	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	82%		24-125%
321-60-8	2-Fluorobiphenyl	88%		19-127%
1718-51-0	Terphenyl-d14	85%		10-119%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID:	RA-10S		
Lab Sample ID:	JC22206-9	**Date Sampled:**	06/14/16
Matrix:	AQ - Ground Water	**Date Received:**	06/15/16
Method:	SW846-8015C (DAI)	**Percent Solids:**	n/a
Project:	BMSMC, Building 5 Area, PR		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GH105573.D	1	06/20/16	XPL	n/a	n/a	GGH5328
Run #2							

Low Molecular Alcohol List

CAS No.	Compound	Result	RL	MDL	Units	Q
64-17-5	Ethanol	ND	100	55	ug/l	
78-83-1	Isobutyl Alcohol	ND	100	36	ug/l	
67-63-0	Isopropyl Alcohol	ND	100	68	ug/l	
71-23-8	n-Propyl Alcohol	ND	100	43	ug/l	
71-36-3	n-Butyl Alcohol	ND	100	87	ug/l	
78-92-2	sec-Butyl Alcohol	ND	100	66	ug/l	
67-56-1	Methanol	ND	200	71	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
111-27-3	Hexanol	96%		56-145%
111-27-3	Hexanol	92%		56-145%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Raw Data: 6G36626.D

SGS Accutest

Report of Analysis

Client Sample ID:	RA-10S		
Lab Sample ID:	JC22206-9	**Date Sampled:**	06/14/16
Matrix:	AQ - Ground Water	**Date Received:**	06/15/16
Method:	SW846 8081B SW846 3510C	**Percent Solids:**	n/a
Project:	BMSMC, Building 5 Area, PR		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	6G36626.D	1	06/27/16	DS	06/17/16	OP94861	G6G1047
Run #2							

	Initial Volume	Final Volume
Run #1	930 ml	10.0 ml
Run #2		

Pesticide TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	0.011	0.0065	ug/l	
319-84-6	alpha-BHC	ND	0.011	0.0065	ug/l	
319-85-7	beta-BHC	ND	0.011	0.0061	ug/l	
319-86-8	delta-BHC	ND	0.011	0.0049	ug/l	
58-89-9	gamma-BHC (Lindane)	ND	0.011	0.0030	ug/l	
5103-71-9	alpha-Chlordane	ND	0.011	0.0050	ug/l	
5103-74-2	gamma-Chlordane	ND	0.011	0.0049	ug/l	
60-57-1	Dieldrin	ND	0.011	0.0039	ug/l	
72-54-8	4,4'-DDD	ND	0.011	0.0041	ug/l	
72-55-9	4,4'-DDE	ND	0.011	0.0066	ug/l	
50-29-3	4,4'-DDT	ND	0.011	0.0053	ug/l	
72-20-8	Endrin	ND	0.011	0.0054	ug/l	
1031-07-8	Endosulfan sulfate	ND	0.011	0.0056	ug/l	
7421-93-4	Endrin aldehyde	ND	0.011	0.0055	ug/l	
53494-70-5	Endrin ketone	ND	0.011	0.0055	ug/l	
959-98-8	Endosulfan-I	ND	0.011	0.0053	ug/l	
33213-65-9	Endosulfan-II	ND	0.011	0.0046	ug/l	
76-44-8	Heptachlor	ND	0.011	0.0041	ug/l	
1024-57-3	Heptachlor epoxide	ND	0.011	0.0070	ug/l	
72-43-5	Methoxychlor	ND	0.022	0.0061	ug/l	
8001-35-2	Toxaphene	ND	0.27	0.20	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	63%		26-132%
877-09-8	Tetrachloro-m-xylene	61%		26-132%
2051-24-3	Decachlorobiphenyl	41%		10-118%
2051-24-3	Decachlorobiphenyl	42%		10-118%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID:	RA-10D		
Lab Sample ID:	JC22206-10	**Date Sampled:**	06/14/16
Matrix:	AQ - Ground Water	**Date Received:**	06/15/16
Method:	SW846 8270D SW846 3510C	**Percent Solids:**	n/a
Project:	BMSMC, Building 5 Area, PR		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F158440.D	1	06/28/16	BP	06/17/16	OP94859	EF6668
Run #2	F158478.D	100	06/29/16	AD	06/17/16	OP94859	EF6670

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2	1000 ml	1.0 ml

ABN TCL Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
95-57-8	2-Chlorophenol	ND	5.0	0.82	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	5.0	0.89	ug/l	
120-83-2	2,4-Dichlorophenol	ND	2.0	1.3	ug/l	
105-67-9	2,4-Dimethylphenol	ND	5.0	2.4	ug/l	
51-28-5	2,4-Dinitrophenol	ND	10	1.6	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	5.0	1.3	ug/l	
95-48-7	2-Methylphenol	ND	2.0	0.89	ug/l	
	3&4-Methylphenol	ND	2.0	0.88	ug/l	
88-75-5	2-Nitrophenol	ND	5.0	0.96	ug/l	
100-02-7	4-Nitrophenol	ND	10	1.2	ug/l	
87-86-5	Pentachlorophenol	ND	5.0	1.4	ug/l	
108-95-2	Phenol	ND	2.0	0.39	ug/l	
58-90-2	2,3,4,6-Tetrachlorophenol	ND	5.0	1.5	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	5.0	1.3	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	5.0	0.92	ug/l	
83-32-9	Acenaphthene	ND	1.0	0.19	ug/l	
208-96-8	Acenaphthylene	ND	1.0	0.14	ug/l	
98-86-2	Acetophenone	ND	2.0	0.21	ug/l	
120-12-7	Anthracene	ND	1.0	0.21	ug/l	
1912-24-9	Atrazine	ND	2.0	0.45	ug/l	
100-52-7	Benzaldehyde	ND	5.0	0.29	ug/l	
56-55-3	Benzo(a)anthracene	ND	1.0	0.20	ug/l	
50-32-8	Benzo(a)pyrene	ND	1.0	0.21	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	1.0	0.21	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	1.0	0.34	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	1.0	0.21	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	2.0	0.40	ug/l	
85-68-7	Butyl benzyl phthalate	ND	2.0	0.46	ug/l	
92-52-4	1,1'-Biphenyl	ND	1.0	0.21	ug/l	
91-58-7	2-Chloronaphthalene	ND	2.0	0.24	ug/l	
106-47-8	4-Chloroaniline	ND	5.0	0.34	ug/l	
86-74-8	Carbazole	ND	1.0	0.23	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RA-10D		
Lab Sample ID:	JC22206-10	**Date Sampled:**	06/14/16
Matrix:	AQ - Ground Water	**Date Received:**	06/15/16
Method:	SW846 8270D SW846 3510C	**Percent Solids:**	n/a
Project:	BMSMC, Building 5 Area, PR		

ABN TCL Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
105-60-2	Caprolactam	ND	2.0	0.65	ug/l	
218-01-9	Chrysene	ND	1.0	0.18	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	2.0	0.28	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	2.0	0.25	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	2.0	0.40	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	2.0	0.37	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	1.0	0.55	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	1.0	0.48	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	2.0	0.51	ug/l	
123-91-1	1,4-Dioxane	2700 [a]	100	66	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	1.0	0.33	ug/l	
132-64-9	Dibenzofuran	ND	5.0	0.22	ug/l	
84-74-2	Di-n-butyl phthalate	ND	2.0	0.50	ug/l	
117-84-0	Di-n-octyl phthalate	ND	2.0	0.23	ug/l	
84-66-2	Diethyl phthalate	ND	2.0	0.26	ug/l	
131-11-3	Dimethyl phthalate	ND	2.0	0.22	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.0	1.7	ug/l	
206-44-0	Fluoranthene	ND	1.0	0.17	ug/l	
86-73-7	Fluorene	ND	1.0	0.17	ug/l	
118-74-1	Hexachlorobenzene	ND	1.0	0.33	ug/l	
87-68-3	Hexachlorobutadiene	ND	1.0	0.49	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	10	2.8	ug/l	
67-72-1	Hexachloroethane	ND	2.0	0.39	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	1.0	0.33	ug/l	
78-59-1	Isophorone	ND	2.0	0.28	ug/l	
90-12-0	1-Methylnaphthalene	ND	1.0	0.26	ug/l	
91-57-6	2-Methylnaphthalene	ND	1.0	0.21	ug/l	
88-74-4	2-Nitroaniline	ND	5.0	0.28	ug/l	
99-09-2	3-Nitroaniline	ND	5.0	0.39	ug/l	
100-01-6	4-Nitroaniline	ND	5.0	0.44	ug/l	
98-95-3	Nitrobenzene	ND	2.0	0.64	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	2.0	0.48	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.0	0.22	ug/l	
85-01-8	Phenanthrene	ND	1.0	0.18	ug/l	
129-00-0	Pyrene	ND	1.0	0.22	ug/l	
95-94-3	1,2,4,5-Tetrachlorobenzene	ND	2.0	0.37	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	55%	0% [b]	14-88%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RA-10D		
Lab Sample ID:	JC22206-10	**Date Sampled:**	06/14/16
Matrix:	AQ - Ground Water	**Date Received:**	06/15/16
Method:	SW846 8270D SW846 3510C	**Percent Solids:**	n/a
Project:	BMSMC, Building 5 Area, PR		

ABN TCL Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-62-2	Phenol-d5	37%	0% [b]	10-110%
118-79-6	2,4,6-Tribromophenol	109%	0% [b]	39-149%
4165-60-0	Nitrobenzene-d5	83%	0% [b]	32-128%
321-60-8	2-Fluorobiphenyl	77%	0% [b]	35-119%
1718-51-0	Terphenyl-d14	96%	0% [b]	10-126%

(a) Result is from Run# 2
(b) Outside control limits due to dilution.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID:	RA-10D		
Lab Sample ID:	JC22206-10	**Date Sampled:**	06/14/16
Matrix:	AQ - Ground Water	**Date Received:**	06/15/16
Method:	SW846 8270D BY SIM SW846 3510C	**Percent Solids:**	n/a
Project:	BMSMC, Building 5 Area, PR		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4M66473.D	1	06/29/16	LK	06/17/16	OP94859A	E4M2989
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
91-20-3	Naphthalene	ND	0.10	0.029	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	91%		24-125%
321-60-8	2-Fluorobiphenyl	92%		19-127%
1718-51-0	Terphenyl-d14	100%		10-119%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID:	RA-10D		
Lab Sample ID:	JC22206-10	**Date Sampled:**	06/14/16
Matrix:	AQ - Ground Water	**Date Received:**	06/15/16
Method:	SW846-8015C (DAI)	**Percent Solids:**	n/a
Project:	BMSMC, Building 5 Area, PR		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GH105539.D	1	06/16/16	XPL	n/a	n/a	GGH5324
Run #2							

Low Molecular Alcohol List

CAS No.	Compound	Result	RL	MDL	Units	Q
64-17-5	Ethanol	ND	100	55	ug/l	
78-83-1	Isobutyl Alcohol	ND	100	36	ug/l	
67-63-0	Isopropyl Alcohol	ND	100	68	ug/l	
71-23-8	n-Propyl Alcohol	ND	100	43	ug/l	
71-36-3	n-Butyl Alcohol	ND	100	87	ug/l	
78-92-2	sec-Butyl Alcohol	ND	100	66	ug/l	
67-56-1	Methanol	ND	200	71	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
111-27-3	Hexanol	102%		56-145%
111-27-3	Hexanol	112%		56-145%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID:	RA-10D		
Lab Sample ID:	JC22206-10	**Date Sampled:**	06/14/16
Matrix:	AQ - Ground Water	**Date Received:**	06/15/16
Method:	SW846 8081B SW846 3510C	**Percent Solids:**	n/a
Project:	BMSMC, Building 5 Area, PR		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	6G36629.D	1	06/27/16	DS	06/17/16	OP94861	G6G1047
Run #2							

	Initial Volume	Final Volume
Run #1	980 ml	10.0 ml
Run #2		

Pesticide TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	0.010	0.0062	ug/l	
319-84-6	alpha-BHC	ND	0.010	0.0061	ug/l	
319-85-7	beta-BHC	ND	0.010	0.0058	ug/l	
319-86-8	delta-BHC	ND	0.010	0.0047	ug/l	
58-89-9	gamma-BHC (Lindane)	ND	0.010	0.0028	ug/l	
5103-71-9	alpha-Chlordane	ND	0.010	0.0047	ug/l	
5103-74-2	gamma-Chlordane	ND	0.010	0.0047	ug/l	
60-57-1	Dieldrin	ND	0.010	0.0037	ug/l	
72-54-8	4,4'-DDD	ND	0.010	0.0039	ug/l	
72-55-9	4,4'-DDE	ND	0.010	0.0063	ug/l	
50-29-3	4,4'-DDT	ND	0.010	0.0051	ug/l	
72-20-8	Endrin	ND	0.010	0.0051	ug/l	
1031-07-8	Endosulfan sulfate	ND	0.010	0.0054	ug/l	
7421-93-4	Endrin aldehyde	ND	0.010	0.0052	ug/l	
53494-70-5	Endrin ketone	ND	0.010	0.0052	ug/l	
959-98-8	Endosulfan-I	ND	0.010	0.0051	ug/l	
33213-65-9	Endosulfan-II	ND	0.010	0.0044	ug/l	
76-44-8	Heptachlor	ND	0.010	0.0039	ug/l	
1024-57-3	Heptachlor epoxide	ND	0.010	0.0067	ug/l	
72-43-5	Methoxychlor	ND	0.020	0.0058	ug/l	
8001-35-2	Toxaphene	ND	0.26	0.19	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	94%		26-132%
877-09-8	Tetrachloro-m-xylene	89%		26-132%
2051-24-3	Decachlorobiphenyl	59%		10-118%
2051-24-3	Decachlorobiphenyl	60%		10-118%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID:	EB-061416		
Lab Sample ID:	JC22206-11	**Date Sampled:**	06/14/16
Matrix:	AQ - Equipment Blank	**Date Received:**	06/15/16
Method:	SW846 8270D SW846 3510C	**Percent Solids:**	n/a
Project:	BMSMC, Building 5 Area, PR		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F158441.D	1	06/28/16	BP	06/17/16	OP94859	EF6668
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

ABN TCL Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
95-57-8	2-Chlorophenol	ND	5.0	0.82	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	5.0	0.89	ug/l	
120-83-2	2,4-Dichlorophenol	ND	2.0	1.3	ug/l	
105-67-9	2,4-Dimethylphenol	ND	5.0	2.4	ug/l	
51-28-5	2,4-Dinitrophenol	ND	10	1.6	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	5.0	1.3	ug/l	
95-48-7	2-Methylphenol	ND	2.0	0.89	ug/l	
	3&4-Methylphenol	ND	2.0	0.88	ug/l	
88-75-5	2-Nitrophenol	ND	5.0	0.96	ug/l	
100-02-7	4-Nitrophenol	ND	10	1.2	ug/l	
87-86-5	Pentachlorophenol	ND	5.0	1.4	ug/l	
108-95-2	Phenol	ND	2.0	0.39	ug/l	
58-90-2	2,3,4,6-Tetrachlorophenol	ND	5.0	1.5	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	5.0	1.3	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	5.0	0.92	ug/l	
83-32-9	Acenaphthene	ND	1.0	0.19	ug/l	
208-96-8	Acenaphthylene	ND	1.0	0.14	ug/l	
98-86-2	Acetophenone	ND	2.0	0.21	ug/l	
120-12-7	Anthracene	ND	1.0	0.21	ug/l	
1912-24-9	Atrazine	ND	2.0	0.45	ug/l	
100-52-7	Benzaldehyde	ND	5.0	0.29	ug/l	
56-55-3	Benzo(a)anthracene	ND	1.0	0.20	ug/l	
50-32-8	Benzo(a)pyrene	ND	1.0	0.21	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	1.0	0.21	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	1.0	0.34	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	1.0	0.21	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	2.0	0.40	ug/l	
85-68-7	Butyl benzyl phthalate	ND	2.0	0.46	ug/l	
92-52-4	1,1'-Biphenyl	ND	1.0	0.21	ug/l	
91-58-7	2-Chloronaphthalene	ND	2.0	0.24	ug/l	
106-47-8	4-Chloroaniline	ND	5.0	0.34	ug/l	
86-74-8	Carbazole	ND	1.0	0.23	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	EB-061416		
Lab Sample ID:	JC22206-11	**Date Sampled:**	06/14/16
Matrix:	AQ - Equipment Blank	**Date Received:**	06/15/16
Method:	SW846 8270D SW846 3510C	**Percent Solids:**	n/a
Project:	BMSMC, Building 5 Area, PR		

ABN TCL Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
105-60-2	Caprolactam	0.81	2.0	0.65	ug/l	J
218-01-9	Chrysene	ND	1.0	0.18	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	2.0	0.28	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	2.0	0.25	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	2.0	0.40	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	2.0	0.37	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	1.0	0.55	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	1.0	0.48	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	2.0	0.51	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	1.0	0.33	ug/l	
132-64-9	Dibenzofuran	ND	5.0	0.22	ug/l	
84-74-2	Di-n-butyl phthalate	ND	2.0	0.50	ug/l	
117-84-0	Di-n-octyl phthalate	ND	2.0	0.23	ug/l	
84-66-2	Diethyl phthalate	ND	2.0	0.26	ug/l	
131-11-3	Dimethyl phthalate	ND	2.0	0.22	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	2.1	2.0	1.7	ug/l	
206-44-0	Fluoranthene	ND	1.0	0.17	ug/l	
86-73-7	Fluorene	ND	1.0	0.17	ug/l	
118-74-1	Hexachlorobenzene	ND	1.0	0.33	ug/l	
87-68-3	Hexachlorobutadiene	ND	1.0	0.49	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	10	2.8	ug/l	
67-72-1	Hexachloroethane	ND	2.0	0.39	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	1.0	0.33	ug/l	
78-59-1	Isophorone	ND	2.0	0.28	ug/l	
90-12-0	1-Methylnaphthalene	ND	1.0	0.26	ug/l	
91-57-6	2-Methylnaphthalene	ND	1.0	0.21	ug/l	
88-74-4	2-Nitroaniline	ND	5.0	0.28	ug/l	
99-09-2	3-Nitroaniline	ND	5.0	0.39	ug/l	
100-01-6	4-Nitroaniline	ND	5.0	0.44	ug/l	
98-95-3	Nitrobenzene	ND	2.0	0.64	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	2.0	0.48	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.0	0.22	ug/l	
85-01-8	Phenanthrene	ND	1.0	0.18	ug/l	
129-00-0	Pyrene	ND	1.0	0.22	ug/l	
95-94-3	1,2,4,5-Tetrachlorobenzene	ND	2.0	0.37	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	55%		14-88%
4165-62-2	Phenol-d5	36%		10-110%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	EB-061416		
Lab Sample ID:	JC22206-11	**Date Sampled:**	06/14/16
Matrix:	AQ - Equipment Blank	**Date Received:**	06/15/16
Method:	SW846 8270D SW846 3510C	**Percent Solids:**	n/a
Project:	BMSMC, Building 5 Area, PR		

ABN TCL Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
118-79-6	2,4,6-Tribromophenol	106%		39-149%
4165-60-0	Nitrobenzene-d5	82%		32-128%
321-60-8	2-Fluorobiphenyl	76%		35-119%
1718-51-0	Terphenyl-d14	99%		10-126%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID:	EB-061416		
Lab Sample ID:	JC22206-11	**Date Sampled:**	06/14/16
Matrix:	AQ - Equipment Blank	**Date Received:**	06/15/16
Method:	SW846 8270D BY SIM SW846 3510C	**Percent Solids:**	n/a
Project:	BMSMC, Building 5 Area, PR		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4M66474.D	1	06/29/16	LK	06/17/16	OP94859A	E4M2989
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
91-20-3	Naphthalene	ND	0.10	0.029	ug/l	
123-91-1	1,4-Dioxane	ND	0.10	0.049	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	86%		24-125%
321-60-8	2-Fluorobiphenyl	86%		19-127%
1718-51-0	Terphenyl-d14	101%		10-119%

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SGS Accutest

Report of Analysis

Client Sample ID:	EB-061416		
Lab Sample ID:	JC22206-11	**Date Sampled:**	06/14/16
Matrix:	AQ - Equipment Blank	**Date Received:**	06/15/16
Method:	SW846-8015C (DAI)	**Percent Solids:**	n/a
Project:	BMSMC, Building 5 Area, PR		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GH105540.D	1	06/16/16	XPL	n/a	n/a	GGH5324
Run #2							

Low Molecular Alcohol List

CAS No.	Compound	Result	RL	MDL	Units	Q
64-17-5	Ethanol	ND	100	55	ug/l	
78-83-1	Isobutyl Alcohol	ND	100	36	ug/l	
67-63-0	Isopropyl Alcohol	ND	100	68	ug/l	
71-23-8	n-Propyl Alcohol	ND	100	43	ug/l	
71-36-3	n-Butyl Alcohol	ND	100	87	ug/l	
78-92-2	sec-Butyl Alcohol	ND	100	66	ug/l	
67-56-1	Methanol	ND	200	71	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
111-27-3	Hexanol	103%		56-145%
111-27-3	Hexanol	110%		56-145%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID:	EB-061416		
Lab Sample ID:	JC22206-11	**Date Sampled:**	06/14/16
Matrix:	AQ - Equipment Blank	**Date Received:**	06/15/16
Method:	SW846 8081B SW846 3510C	**Percent Solids:**	n/a
Project:	BMSMC, Building 5 Area, PR		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	6G36630.D	1	06/27/16	DS	06/17/16	OP94861	G6G1047
Run #2							

	Initial Volume	Final Volume
Run #1	920 ml	10.0 ml
Run #2		

Pesticide TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	0.011	0.0066	ug/l	
319-84-6	alpha-BHC	ND	0.011	0.0065	ug/l	
319-85-7	beta-BHC	ND	0.011	0.0062	ug/l	
319-86-8	delta-BHC	ND	0.011	0.0050	ug/l	
58-89-9	gamma-BHC (Lindane)	ND	0.011	0.0030	ug/l	
5103-71-9	alpha-Chlordane	ND	0.011	0.0050	ug/l	
5103-74-2	gamma-Chlordane	ND	0.011	0.0050	ug/l	
60-57-1	Dieldrin	ND	0.011	0.0039	ug/l	
72-54-8	4,4'-DDD	ND	0.011	0.0041	ug/l	
72-55-9	4,4'-DDE	ND	0.011	0.0067	ug/l	
50-29-3	4,4'-DDT	ND	0.011	0.0054	ug/l	
72-20-8	Endrin	ND	0.011	0.0055	ug/l	
1031-07-8	Endosulfan sulfate	ND	0.011	0.0057	ug/l	
7421-93-4	Endrin aldehyde	ND	0.011	0.0056	ug/l	
53494-70-5	Endrin ketone	ND	0.011	0.0055	ug/l	
959-98-8	Endosulfan-I	ND	0.011	0.0054	ug/l	
33213-65-9	Endosulfan-II	ND	0.011	0.0047	ug/l	
76-44-8	Heptachlor	ND	0.011	0.0041	ug/l	
1024-57-3	Heptachlor epoxide	ND	0.011	0.0071	ug/l	
72-43-5	Methoxychlor	ND	0.022	0.0062	ug/l	
8001-35-2	Toxaphene	ND	0.27	0.20	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	106%		26-132%
877-09-8	Tetrachloro-m-xylene	106%		26-132%
2051-24-3	Decachlorobiphenyl	68%		10-118%
2051-24-3	Decachlorobiphenyl	75%		10-118%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Raw Data: F158171.D F158172.D

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JC22206
Account: AMANYWP Anderson, Mulholland & Associates
Project: BMSMC, Building 5 Area, PR

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP94835-MS	F158171.D	1	06/21/16	BP	06/16/16	OP94835	EF6659
OP94835-MSD	F158172.D	1	06/21/16	BP	06/16/16	OP94835	EF6659
JC22206-1	F158276.D	1	06/23/16	BP	06/16/16	OP94835	EF6662

The QC reported here applies to the following samples: Method: SW846 8270D

JC22206-1, JC22206-2, JC22206-3

CAS No.	Compound	JC22206-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
95-57-8	2-Chlorophenol	ND		52.1	34.8	67	50.5	34.8	69	0	49-110/20
59-50-7	4-Chloro-3-methyl phenol	ND		52.1	35.7	69	50.5	38.9	77	9	44-121/18
120-83-2	2,4-Dichlorophenol	ND		52.1	37.3	72	50.5	38.8	77	4	42-120/19
105-67-9	2,4-Dimethylphenol	ND		52.1	31.8	61	50.5	35.2	70	10	33-132/23
51-28-5	2,4-Dinitrophenol	ND		104	82.8	79	101	97.2	96	16	21-145/26
534-52-1	4,6-Dinitro-o-cresol	ND		52.1	37.2	71	50.5	43.3	86	15	25-134/27
95-48-7	2-Methylphenol	ND		52.1	31.5	60	50.5	31.8	63	1	47-112/18
	3&4-Methylphenol	ND		52.1	29.6	57	50.5	30.1	60	2	44-113/19
88-75-5	2-Nitrophenol	ND		52.1	39.4	76	50.5	40.3	80	2	45-118/20
100-02-7	4-Nitrophenol	ND		52.1	30.6	59	50.5	32.8	65	7	23-144/28
87-86-5	Pentachlorophenol	ND		52.1	45.8	88	50.5	52.4	104	13	25-151/25
108-95-2	Phenol	ND		52.1	19.3	37	50.5	18.6	37	4	22-100/22
58-90-2	2,3,4,6-Tetrachlorophenol	ND		52.1	45.3	87	50.5	51.2	101	12	44-122/21
95-95-4	2,4,5-Trichlorophenol	ND		52.1	39.4	76	50.5	43.9	87	11	51-124/20
88-06-2	2,4,6-Trichlorophenol	ND		52.1	42.6	82	50.5	46.9	93	10	53-120/21
83-32-9	Acenaphthene	ND		52.1	36.5	70	50.5	40.3	80	10	52-120/23
208-96-8	Acenaphthylene	ND		52.1	36.2	70	50.5	40.3	80	11	50-101/22
98-86-2	Acetophenone	ND		52.1	36.6	70	50.5	37.9	75	3	31-141/23
120-12-7	Anthracene	ND		52.1	37.9	73	50.5	41.9	83	10	54-117/22
1912-24-9	Atrazine	ND		52.1	62.3	120	50.5	69.5	138	11	42-152/23
100-52-7	Benzaldehyde	ND		52.1	40.8	78	50.5	40.1	79	2	10-164/30
56-55-3	Benzo(a)anthracene	ND		52.1	40.3	77	50.5	43.9	87	9	40-123/24
50-32-8	Benzo(a)pyrene	ND		52.1	42.6	82	50.5	46.4	92	9	41-127/25
205-99-2	Benzo(b)fluoranthene	ND		52.1	40.6	78	50.5	45.3	90	11	39-127/27
191-24-2	Benzo(g,h,i)perylene	ND		52.1	39.7	76	50.5	40.7	81	2	34-128/28
207-08-9	Benzo(k)fluoranthene	ND		52.1	40.1	77	50.5	43.0	85	7	39-122/26
101-55-3	4-Bromophenyl phenyl ether	ND		52.1	41.9	80	50.5	45.0	89	7	51-124/23
85-68-7	Butyl benzyl phthalate	ND		52.1	43.6	84	50.5	47.0	93	8	21-146/28
92-52-4	1,1'-Biphenyl	ND		52.1	38.9	75	50.5	42.9	85	10	27-142/23
91-58-7	2-Chloronaphthalene	ND		52.1	35.3	68	50.5	39.1	77	10	51-109/23
106-47-8	4-Chloroaniline	7.5		52.1	27.6	39	50.5	26.8	38	3	10-110/55
86-74-8	Carbazole	ND		52.1	40.1	77	50.5	44.7	89	11	52-116/22
105-60-2	Caprolactam	ND		52.1	10.9	21	50.5	10.5	21	4	10-106/34
218-01-9	Chrysene	ND		52.1	37.1	71	50.5	40.2	80	[illegible]	41-128/24
111-91-1	bis(2-Chloroethoxy)methane	ND		52.1	30.4	58	50.5	31.6	[illegible]	[illegible]	16-120/24
111-44-4	bis(2-Chloroethyl)ether	ND		52.1	32.8	63	50.5	33.0	65	1	123/28

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JC22206
Account: AMANYWP Anderson, Mulholland & Associates
Project: BMSMC, Building 5 Area, PR

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP94835-MS	F158171.D	1	06/21/16	BP	06/16/16	OP94835	EF6659
OP94835-MSD	F158172.D	1	06/21/16	BP	06/16/16	OP94835	EF6659
JC22206-1	F158276.D	1	06/23/16	BP	06/16/16	OP94835	EF6662

The QC reported here applies to the following samples: Method: SW846 8270D

JC22206-1, JC22206-2, JC22206-3

CAS No.	Compound	JC22206-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
108-60-1	bis(2-Chloroisopropyl)ether	ND		52.1	32.4	62	50.5	32.2	64	1	41-117/25
7005-72-3	4-Chlorophenyl phenyl ether	ND		52.1	39.2	75	50.5	43.3	86	10	48-121/21
121-14-2	2,4-Dinitrotoluene	ND		52.1	45.7	88	50.5	51.2	101	11	54-123/27
606-20-2	2,6-Dinitrotoluene	ND		52.1	45.2	87	50.5	49.7	98	9	55-125/26
91-94-1	3,3'-Dichlorobenzidine	ND		104	74.0	71	101	80.8	80	9	10-107/47
123-91-1	1,4-Dioxane	13.6		52.1	28.6	29	50.5	25.4	23	12	10-119/31
53-70-3	Dibenzo(a,h)anthracene	ND		52.1	40.9	79	50.5	43.0	85	5	35-130/27
132-64-9	Dibenzofuran	ND		52.1	37.0	71	50.5	41.3	82	11	53-112/22
84-74-2	Di-n-butyl phthalate	ND		52.1	43.0	83	50.5	47.8	95	11	38-129/23
117-84-0	Di-n-octyl phthalate	ND		52.1	40.2	77	50.5	44.0	87	9	35-145/26
84-66-2	Diethyl phthalate	ND		52.1	39.0	75	50.5	43.8	87	12	16-136/30
131-11-3	Dimethyl phthalate	ND		52.1	38.2	73	50.5	42.1	83	10	10-143/39
117-81-7	bis(2-Ethylhexyl)phthalate	ND		52.1	39.2	75	50.5	41.7	83	6	34-141/28
206-44-0	Fluoranthene	ND		52.1	41.6	80	50.5	46.2	91	10	47-123/24
86-73-7	Fluorene	ND		52.1	38.8	74	50.5	42.9	85	10	56-117/22
118-74-1	Hexachlorobenzene	ND		52.1	38.7	74	50.5	42.3	84	9	46-125/24
87-68-3	Hexachlorobutadiene	ND		52.1	33.3	64	50.5	33.1	66	1	26-121/24
77-47-4	Hexachlorocyclopentadiene	ND		104	73.1	70	101	78.5	78	7	10-133/31
67-72-1	Hexachloroethane	ND		52.1	33.5	64	50.5	31.8	63	5	35-111/26
193-39-5	Indeno(1,2,3-cd)pyrene	ND		52.1	42.7	82	50.5	44.5	88	4	32-130/30
78-59-1	Isophorone	ND		52.1	30.3	58	50.5	32.4	64	7	47-126/23
90-12-0	1-Methylnaphthalene	ND		52.1	36.1	69	50.5	38.1	75	5	34-124/25
91-57-6	2-Methylnaphthalene	ND		52.1	33.4	64	50.5	35.0	69	5	34-123/24
88-74-4	2-Nitroaniline	ND		52.1	35.2	68	50.5	39.3	78	11	46-137/23
99-09-2	3-Nitroaniline	ND		52.1	37.2	71	50.5	38.9	77	4	10-110/50
100-01-6	4-Nitroaniline	ND		52.1	44.2	85	50.5	48.8	97	10	38-118/25
98-95-3	Nitrobenzene	ND		52.1	27.8	53	50.5	28.6	57	3	35-130/25
621-64-7	N-Nitroso-di-n-propylamine	ND		52.1	27.0	52	50.5	27.8	55	3	45-123/22
86-30-6	N-Nitrosodiphenylamine	ND		52.1	39.8	76	50.5	43.9	87	10	46-123/24
85-01-8	Phenanthrene	ND		52.1	37.2	71	50.5	41.0	81	10	48-121/23
129-00-0	Pyrene	ND		52.1	38.8	74	50.5	42.6	84	9	43-124/26
95-94-3	1,2,4,5-Tetrachlorobenzene	ND		52.1	41.8	80	50.5	44.6	88	6	25-142/24

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JC22206
Account: AMANYWP Anderson, Mulholland & Associates
Project: BMSMC, Building 5 Area, PR

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP94835-MS	F158171.D	1	06/21/16	BP	06/16/16	OP94835	EF6659
OP94835-MSD	F158172.D	1	06/21/16	BP	06/16/16	OP94835	EF6659
JC22206-1	F158276.D	1	06/23/16	BP	06/16/16	OP94835	EF6662

The QC reported here applies to the following samples: **Method:** SW846 8270D

JC22206-1, JC22206-2, JC22206-3

CAS No.	Surrogate Recoveries	MS	MSD	JC22206-1	Limits
367-12-4	2-Fluorophenol	54%	53%	44%	14-88%
4165-62-2	Phenol-d5	36%	37%	28%	10-110%
118-79-6	2,4,6-Tribromophenol	94%	104%	86%	39-149%
4165-60-0	Nitrobenzene-d5	62%	65%	64%	32-128%
321-60-8	2-Fluorobiphenyl	74%	83%	71%	35-119%
1718-51-0	Terphenyl-d14	85%	92%	74%	10-126%

* = Outside of Control Limits.

Raw Data: F158417.D F158418.D

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JC22206
Account: AMANYWP Anderson, Mulholland & Associates
Project: BMSMC, Building 5 Area, PR

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP94859-MS	F158417.D	1	06/28/16	JJ	06/17/16	OP94859	EF6667
OP94859-MSD	F158418.D	1	06/28/16	JJ	06/17/16	OP94859	EF6667
JC22206-9	F158389.D	1	06/27/16	BP	06/17/16	OP94859	EF6666
JC22206-9	F158443.D	50	06/28/16	BP	06/17/16	OP94859	EF6668

The QC reported here applies to the following samples: Method: SW846 8270D

JC22206-4, JC22206-5, JC22206-6, JC22206-7, JC22206-8, JC22206-9, JC22206-10, JC22206-11

CAS No.	Compound	JC22206-9 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
95-57-8	2-Chlorophenol	ND		50	38.7	77	50	31.3	63	21* a	49-110/20
59-50-7	4-Chloro-3-methyl phenol	ND		50	39.7	79	50	31.7	63	22* a	44-121/18
120-83-2	2,4-Dichlorophenol	ND		50	40.4	81	50	33.3	67	19	42-120/19
105-67-9	2,4-Dimethylphenol	ND		50	37.1	74	50	30.6	61	19	33-132/23
51-28-5	2,4-Dinitrophenol	ND		100	117	117	100	87.0	87	29* a	21-145/26
534-52-1	4,6-Dinitro-o-cresol	ND		50	48.2	96	50	36.9	74	27	25-134/27
95-48-7	2-Methylphenol	ND		50	35.0	70	50	29.4	59	17	47-112/18
	3&4-Methylphenol	ND		50	34.2	68	50	28.7	57	17	44-113/19
88-75-5	2-Nitrophenol	ND		50	43.6	87	50	35.2	70	21* a	45-118/20
100-02-7	4-Nitrophenol	ND		50	32.3	65	50	25.1	50	25	23-144/28
87-86-5	Pentachlorophenol	ND		50	51.4	103	50	37.9	76	30* a	25-151/25
108-95-2	Phenol	ND		50	21.7	43	50	18.3	37	17	22-100/22
58-90-2	2,3,4,6-Tetrachlorophenol	ND		50	51.7	103	50	39.9	80	26* a	44-122/21
95-95-4	2,4,5-Trichlorophenol	ND		50	46.1	92	50	35.4	71	26* a	51-124/20
88-06-2	2,4,6-Trichlorophenol	ND		50	48.6	97	50	38.0	76	24* a	53-120/21
83-32-9	Acenaphthene	ND		50	41.0	82	50	32.0	64	25* a	52-120/23
208-96-8	Acenaphthylene	ND		50	41.2	82	50	32.0	64	25* a	50-101/22
98-86-2	Acetophenone	ND		50	43.0	86	50	34.8	70	21	31-141/23
120-12-7	Anthracene	ND		50	42.3	85	50	32.3	65	27* a	54-117/22
1912-24-9	Atrazine	ND		50	67.6	135	50	52.6	105	25* a	42-152/23
100-52-7	Benzaldehyde	ND		50	43.4	87	50	38.5	77	12	10-164/30
56-55-3	Benzo(a)anthracene	ND		50	44.6	89	50	34.1	68	27* a	40-123/24
50-32-8	Benzo(a)pyrene	ND		50	45.7	91	50	34.7	69	27* a	41-127/25
205-99-2	Benzo(b)fluoranthene	ND		50	44.5	89	50	34.0	68	27	39-127/27
191-24-2	Benzo(g,h,i)perylene	ND		50	40.2	80	50	30.1	60	29* a	34-128/28
207-08-9	Benzo(k)fluoranthene	ND		50	43.0	86	50	33.4	67	25	39-122/26
101-55-3	4-Bromophenyl phenyl ether	ND		50	45.9	92	50	35.5	71	26* a	51-124/23
85-68-7	Butyl benzyl phthalate	ND		50	50.0	100	50	37.8	76	28	21-146/28
92-52-4	1,1'-Biphenyl	ND		50	44.5	89	50	35.4	71	23	27-142/23
91-58-7	2-Chloronaphthalene	ND		50	40.7	81	50	32.3	65	23	51-109/23
106-47-8	4-Chloroaniline	ND		50	18.2	36	50	22.3	45	20	10-110/55
86-74-8	Carbazole	ND		50	45.5	91	50	34.8	70	27* a	52-116/22
105-60-2	Caprolactam	ND		50	14.9	30	50	11.3	23	27	10-106/34
218-01-9	Chrysene	ND		50	40.5	81	50	31.5	63	25* a	41-128/24
111-91-1	bis(2-Chloroethoxy)methane	ND		50	37.2	74	50	30.6	61	19	46-120/24
111-44-4	bis(2-Chloroethyl)ether	ND		50	40.6	81	50	32.7	65	22	42-123/28

* = Outside of Control Limits.

Rafael Infante Méndez
IC # 1888

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JC22206
Account: AMANYWP Anderson, Mulholland & Associates
Project: BMSMC, Building 5 Area, PR

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP94859-MS	F158417.D	1	06/28/16	JJ	06/17/16	OP94859	EF6667
OP94859-MSD	F158418.D	1	06/28/16	JJ	06/17/16	OP94859	EF6667
JC22206-9	F158389.D	1	06/27/16	BP	06/17/16	OP94859	EF6666
JC22206-9	F158443.D	50	06/28/16	BP	06/17/16	OP94859	EF6668

The QC reported here applies to the following samples: Method: SW846 8270D

JC22206-4, JC22206-5, JC22206-6, JC22206-7, JC22206-8, JC22206-9, JC22206-10, JC22206-11

CAS No.	Compound	JC22206-9 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
108-60-1	bis(2-Chloroisopropyl)ether	ND		50	36.6	73	50	29.2	58	22	41-117/25
7005-72-3	4-Chlorophenyl phenyl ether	ND		50	43.0	86	50	34.0	68	23* [a]	48-121/21
121-14-2	2,4-Dinitrotoluene	ND		50	52.4	105	50	39.2	78	29* [a]	54-123/27
606-20-2	2,6-Dinitrotoluene	ND		50	52.7	105	50	40.1	80	27* [a]	55-125/26
91-94-1	3,3'-Dichlorobenzidine	ND		100	53.8	54	100	54.2	54	1	10-107/47
123-91-1	1,4-Dioxane	1530 [c]		50	1090	-880* [b]	50	1020	-1020* [b]	7	10-119/31
53-70-3	Dibenzo(a,h)anthracene	ND		50	42.6	85	50	31.7	63	29* [a]	35-130/27
132-64-9	Dibenzofuran	ND		50	42.5	85	50	33.0	66	25* [a]	53-112/22
84-74-2	Di-n-butyl phthalate	ND		50	49.6	99	50	37.6	75	28* [a]	38-129/23
117-84-0	Di-n-octyl phthalate	ND		50	45.9	92	50	34.5	69	28* [a]	35-145/26
84-66-2	Diethyl phthalate	ND		50	45.1	90	50	34.5	69	27	16-136/30
131-11-3	Dimethyl phthalate	ND		50	43.6	87	50	33.6	67	26	10-143/39
117-81-7	bis(2-Ethylhexyl)phthalate	ND		50	43.9	88	50	33.4	67	27	34-141/28
206-44-0	Fluoranthene	ND		50	46.4	93	50	35.6	71	26* [a]	47-123/24
86-73-7	Fluorene	ND		50	42.6	85	50	33.2	66	25* [a]	56-117/22
118-74-1	Hexachlorobenzene	ND		50	43.0	86	50	33.2	66	26* [a]	46-125/24
87-68-3	Hexachlorobutadiene	ND		50	32.9	66	50	28.0	56	16	26-121/24
77-47-4	Hexachlorocyclopentadiene	ND		100	84.0	84	100	64.1	64	27	10-133/31
67-72-1	Hexachloroethane	ND		50	36.0	72	50	29.2	58	21	35-111/26
193-39-5	Indeno(1,2,3-cd)pyrene	ND		50	43.1	86	50	32.1	64	29	32-130/30
78-59-1	Isophorone	ND		50	38.3	77	50	31.4	63	20	47-126/23
90-12-0	1-Methylnaphthalene	ND		50	38.9	78	50	32.1	64	19	34-124/25
91-57-6	2-Methylnaphthalene	ND		50	36.4	73	50	30.0	60	19	34-123/24
88-74-4	2-Nitroaniline	ND		50	50.4	101	50	39.0	78	26* [a]	46-137/23
99-09-2	3-Nitroaniline	ND		50	28.5	57	50	30.6	61	7	10-110/50
100-01-6	4-Nitroaniline	ND		50	49.8	100	50	37.6	75	28* [a]	38-118/25
98-95-3	Nitrobenzene	ND		50	35.9	72	50	29.1	58	21	35-130/25
621-64-7	N-Nitroso-di-n-propylamine	ND		50	38.1	76	50	30.7	61	22	45-123/22
86-30-6	N-Nitrosodiphenylamine	ND		50	44.8	90	50	34.5	69	26* [a]	46-123/24
85-01-8	Phenanthrene	ND		50	41.1	82	50	32.1	64	25* [a]	48-121/23
129-00-0	Pyrene	ND		50	43.5	87	50	33.6	67	26	43-124/26
95-94-3	1,2,4,5-Tetrachlorobenzene	ND		50	45.3	91	50	36.4	73	22	25-142/24

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JC22206
Account: AMANYWP Anderson, Mulholland & Associates
Project: BMSMC, Building 5 Area, PR

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP94859-MS	F158417.D	1	06/28/16	JJ	06/17/16	OP94859	EF6667
OP94859-MSD	F158418.D	1	06/28/16	JJ	06/17/16	OP94859	EF6667
JC22206-9	F158389.D	1	06/27/16	BP	06/17/16	OP94859	EF6666
JC22206-9	F158443.D	50	06/28/16	BP	06/17/16	OP94859	EF6668

The QC reported here applies to the following samples: **Method:** SW846 8270D

JC22206-4, JC22206-5, JC22206-6, JC22206-7, JC22206-8, JC22206-9, JC22206-10, JC22206-11

CAS No.	Surrogate Recoveries	MS	MSD	JC22206-9	JC22206-9	Limits
367-12-4	2-Fluorophenol	60%	51%	54%	0%* [d]	14-88%
4165-62-2	Phenol-d5	42%	35%	34%	0%* [d]	10-110%
118-79-6	2,4,6-Tribromophenol	109%	85%	110%	0%* [d]	39-149%
4165-60-0	Nitrobenzene-d5	80%	66%	86%	0%* [d]	32-128%
321-60-8	2-Fluorobiphenyl	88%	69%	84%	0%* [d]	35-119%
1718-51-0	Terphenyl-d14	95%	74%	90%	0%* [d]	10-126%

(a) Analytical precision exceeds in-house control limits.
(b) Outside control limits due to high level in sample relative to spike amount.
(c) Result is from Run #2.
(d) Outside control limits due to dilution.

* = Outside of Control Limits.

Raw Data: 4M66407.D 4M66408.D

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JC22206
Account: AMANYWP Anderson, Mulholland & Associates
Project: BMSMC, Building 5 Area, PR

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP94835A-MS	4M66407.D	1	06/28/16	LK	06/16/16	OP94835A	E4M2986
OP94835A-MSD	4M66408.D	1	06/28/16	LK	06/16/16	OP94835A	E4M2986
JC22206-1	4M66456.D	1	06/29/16	LK	06/16/16	OP94835A	E4M2988

The QC reported here applies to the following samples: Method: SW846 8270D BY SIM

JC22206-1, JC22206-2, JC22206-3

CAS No.	Compound	JC22206-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
91-20-3	Naphthalene	ND		1.02	0.906	89	1.08	0.944	88	4	23-140/36
123-91-1	1,4-Dioxane	12.1	E	1.02	11.9	-20* a	1.08	13.2	102	10	20-160/30

CAS No.	Surrogate Recoveries	MS	MSD	JC22206-1	Limits
367-12-4	2-Fluorophenol	39%	40%		14-81%
4165-62-2	Phenol-d5	27%	28%		11-54%
118-79-6	2,4,6-Tribromophenol	90%	94%		35-145%
4165-60-0	Nitrobenzene-d5	62%	64%	57%	24-125%
321-60-8	2-Fluorobiphenyl	50%	50%	52%	19-127%
1718-51-0	Terphenyl-d14	75%	82%	63%	10-119%

(a) Outside control limits due to high level in sample relative to spike amount.

* = Outside of Control Limits.

6.3.3
6

Raw Data: 4M66392.D 4M66393.D

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JC22206
Account: AMANYWP Anderson, Mulholland & Associates
Project: BMSMC, Building 5 Area, PR

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP94859A-MS	4M66392.D	1	06/27/16	LK	06/17/16	OP94859A	E4M2984
OP94859A-MSD	4M66393.D	1	06/27/16	LK	06/17/16	OP94859A	E4M2984
JC22206-9	4M66472.D	1	06/29/16	LK	06/17/16	OP94859A	E4M2989

The QC reported here applies to the following samples: Method: SW846 8270D BY SIM

JC22206-4, JC22206-5, JC22206-6, JC22206-7, JC22206-8, JC22206-9, JC22206-10, JC22206-11

CAS No.	Compound	JC22206-9 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
91-20-3	Naphthalene	0.846		1	0.758	0* [a]	1	0.826	0* [a]	9	23-140/36
123-91-1	1,4-Dioxane	448	E	1	475	2700* [b]	1	509	6100* [b]	7	20-160/30

CAS No.	Surrogate Recoveries	MS	MSD	JC22206-9	Limits
4165-60-0	Nitrobenzene-d5	77%	84%	82%	24-125%
321-60-8	2-Fluorobiphenyl	73%	79%	88%	19-127%
1718-51-0	Terphenyl-d14	93%	92%	85%	10-119%

(a) Outside control limits due to matrix interference.
(b) Outside control limits due to high level in sample relative to spike amount.

* = Outside of Control Limits.

6.3.4

6

Raw Data: GH105527.D GH105528.D

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JC22206
Account: AMANYWP Anderson, Mulholland & Associates
Project: *BMSMC, Building 5 Area, PR*

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC22206-1MS	GH105527.D	1	06/16/16	XPL	n/a	n/a	GGH5324
JC22206-1MSD	GH105528.D	1	06/16/16	XPL	n/a	n/a	GGH5324
JC22206-1	GH105526.D	1	06/16/16	XPL	n/a	n/a	GGH5324

The QC reported here applies to the following samples: **Method:** SW846-8015C (DAI)

JC22206-1, JC22206-2, JC22206-3, JC22206-4, JC22206-5, JC22206-6, JC22206-7, JC22206-8, JC22206-10, JC22206-11

CAS No.	Compound	JC22206-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
64-17-5	Ethanol	ND		5000	5250	105	5000	5830	117	10	58-145/27
78-83-1	Isobutyl Alcohol	ND		5000	5780	116	5000	6000	120	4	69-131/25
67-63-0	Isopropyl Alcohol	ND		5000	5410	108	5000	5800	116	7	70-133/28
71-23-8	n-Propyl Alcohol	ND		5000	5420	108	5000	6010	120	10	66-137/29
71-36-3	n-Butyl Alcohol	ND		5000	5010	100	5000	5240	105	4	63-131/25
78-92-2	sec-Butyl Alcohol	ND		5000	5810	116	5000	5860	117	1	64-136/25
67-56-1	Methanol	ND		5000	4850	97	5000	5380	108	10	48-148/34

CAS No.	Surrogate Recoveries	MS	MSD	JC22206-1	Limits
111-27-3	Hexanol	93%	99%	81%	56-145%
111-27-3	Hexanol	100%	109%	87%	56-145%

* = Outside of Control Limits.

8.3.1

Raw Data: GH105574.D GH105576.D

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JC22206
Account: AMANYWP Anderson, Mulholland & Associates
Project: *BMSMC, Building 5 Area, PR*

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC22206-9MS	GH105574.D	1	06/20/16	XPL	n/a	n/a	GGH5328
JC22206-9MSD	GH105576.D	1	06/20/16	XPL	n/a	n/a	GGH5328
JC22206-9	GH105573.D	1	06/20/16	XPL	n/a	n/a	GGH5328

The QC reported here applies to the following samples: **Method:** SW846-8015C (DAI)

JC22206-9

CAS No.	Compound	JC22206-9 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
64-17-5	Ethanol	ND		5000	4990	100	5000	5600	112	12	58-145/27
78-83-1	Isobutyl Alcohol	ND		5000	5790	116	5000	5830	117	1	69-131/25
67-63-0	Isopropyl Alcohol	ND		5000	5190	104	5000	5650	113	8	70-133/28
71-23-8	n-Propyl Alcohol	ND		5000	5960	119	5000	5680	114	5	66-137/29
71-36-3	n-Butyl Alcohol	ND		5000	5090	102	5000	5100	102	0	63-131/25
78-92-2	sec-Butyl Alcohol	ND		5000	5780	116	5000	5830	117	1	64-136/25
67-56-1	Methanol	ND		5000	4150	83	5000	4840	97	15	48-148/34

CAS No.	Surrogate Recoveries	MS	MSD	JC22206-9	Limits
111-27-3	Hexanol	101%	102%	96%	56-145%
111-27-3	Hexanol	99%	97%	92%	56-145%

* = Outside of Control Limits.

8.3.2

Raw Data: 6G36627.D 6G36628.D

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JC22206
Account: AMANYWP Anderson, Mulholland & Associates
Project: BMSMC, Building 5 Area, PR

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP94861-MS	6G36627.D	1	06/27/16	DS	06/17/16	OP94861	G6G1047
OP94861-MSD	6G36628.D	1	06/27/16	DS	06/17/16	OP94861	G6G1047
JC22206-9	6G36626.D	1	06/27/16	DS	06/17/16	OP94861	G6G1047

The QC reported here applies to the following samples: Method: SW846 8081B

JC22206-4, JC22206-5, JC22206-6, JC22206-7, JC22206-8, JC22206-9, JC22206-10, JC22206-11

CAS No.	Compound	JC22206-9 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
309-00-2	Aldrin	ND		0.266	0.25	94	0.269	0.21	78	17	37-159/40
319-84-6	alpha-BHC	ND		0.266	0.26	98	0.269	0.22	82	17	37-164/37
319-85-7	beta-BHC	ND		0.266	0.22	83	0.269	0.20	74	10	46-151/36
319-86-8	delta-BHC	ND		0.266	0.26	98	0.269	0.23	86	12	32-168/36
58-89-9	gamma-BHC (Lindane)	ND		0.266	0.27	102	0.269	0.23	86	16	44-160/37
5103-71-9	alpha-Chlordane	ND		0.266	0.27	102	0.269	0.24	89	12	38-160/35
5103-74-2	gamma-Chlordane	ND		0.266	0.24	90	0.269	0.22	82	9	39-157/37
60-57-1	Dieldrin	ND		0.266	0.26	98	0.269	0.23	86	12	42-161/36
72-54-8	4,4'-DDD	ND		0.266	0.25	94	0.269	0.21	78	17	40-161/36
72-55-9	4,4'-DDE	ND		0.266	0.27	102	0.269	0.23	86	16	34-158/36
50-29-3	4,4'-DDT	ND		0.266	0.26	98	0.269	0.22	82	17	41-173/33
72-20-8	Endrin	ND		0.266	0.28	105	0.269	0.24	89	15	44-166/35
1031-07-8	Endosulfan sulfate	ND		0.266	0.30	113	0.269	0.26	97	14	46-161/36
7421-93-4	Endrin aldehyde	ND		0.266	0.23	86	0.269	0.21	78	9	34-149/36
53494-70-5	Endrin ketone	ND		0.266	0.30	113	0.269	0.26	97	14	44-157/36
959-98-8	Endosulfan-I	ND		0.266	0.24	90	0.269	0.21	78	13	43-154/35
33213-65-9	Endosulfan-II	ND		0.266	0.26	98	0.269	0.23	86	12	40-162/35
76-44-8	Heptachlor	ND		0.266	0.25	94	0.269	0.21	78	17	33-153/37
1024-57-3	Heptachlor epoxide	ND		0.266	0.26	98	0.269	0.23	86	12	45-154/37
72-43-5	Methoxychlor	ND		0.266	0.27	102	0.269	0.24	89	12	48-169/32
8001-35-2	Toxaphene	ND			ND			ND		nc	50-150/30

CAS No.	Surrogate Recoveries	MS	MSD	JC22206-9	Limits
877-09-8	Tetrachloro-m-xylene	105%	88%	63%	26-132%
877-09-8	Tetrachloro-m-xylene	104%	86%	61%	26-132%
2051-24-3	Decachlorobiphenyl	88%	75%	41%	10-118%
2051-24-3	Decachlorobiphenyl	90%	74%	42%	10-118%

* = Outside of Control Limits.

10.3.1 10

GW
EB
MW

CHAIN OF CUSTODY

Page 1 of 2

PN

Fresh Ponds Corporate Village, Building B
2235 Route 130, Dayton, NJ 08810
732-329-0200 FAX: 732-329-3499/3480

Accutest Job #: JC22206
Accutest Quote #:

Client Information
Anderson Mulholland & Associates
Name: 2700 Westchester Avenue
Address: Purchase NY 10577
City: Terry Taylor State Zip
Send Report to:
Phone #: 914-251-0400

Facility Information
Anderson Mulholland
Project Name:
Location:
Project/PO #: 2Q16 Ground Water Sampling
FAX #: 914-251-1286

Analytical Information

Field ID / Point of Collection	Collection Date	Time	Sampled By	Matrix	# of bottles	Preservation HCl	Preservation HNO3	Preservation H2SO4	Preservation NaOH	Preservation Zinc	VOCs, 8260C	SVOC, 8270D	LMA, 8015B	Pesticides, 8081B	VMAVPH	BMAEPHR	1,4 Dioxane and naphthalene, Method 8270D SIM				
MW-17	6/10/16	1225	NM/L	GW		X				X	X	X	X		X	X	X	1			E99
MW-18	6/10/16	1650		GW		X				X	X	X	X		X	X	X	2			V4QD
MW-17 MS	6/10/16	1239		GW		X				X	X	X	X		X	X	X				V3Q9
MW-17 MSD	6/10/16	1249		GW		X				X	X	X	X		X	X	X	1			
MW-7	6/10/16	1915		GW		X				X	X	X	X		X	X	X	3			5V0
S-33	6/13/16	1225		GW		X				X	X	X	X	X	X	X	X				
S-36		1655		GW		X				X	X	X	X	X	X	X	X	4			
S-36D		1708		GW		X				X	X	X	X	X	X	X	X	5			
S-39		1500		GW		X				X	X	X	X	X	X	X	X	6			
S-34		1305		GW		X				X	X	X	X	X	X	X	X				
S-35 *	6/13/16	1526		GW		X				X	X	X	X	X	X	X	X	7			

Turnaround Information
- [X] 21 Day Standard — Approved By:
- [ ] 14 Day
- [ ] 7 Days EMERGENCY
- [ ] Other _____ (Days)

RUSH TAT is for FAX data unless previously approved.

Data Deliverable Information
- [ ] NJ Reduced
- [ ] NJ Full
- [ ] FULL CLP
- [ ] Disk Deliverable
- [ ] Other (Specify)
- [ ] Commercial "A"
- [ ] Commercial "B"
- [ ] State Forms

INITIAL ASSESSMENT Category B
LABEL VERIFICATION

Comments / Remarks

Federal Express ID # 8012 1953 5960
Lab Trip Blank Date 6/11/16 Time 0630
For VOCs (8260C) add to report: Tetrahydrofuran, p-isopropyl toluene, 1-2-4 Trimethyl benzene, Benzyl choride and Tert amylchloride. For SVOCs (8270D) add to report: 1-methyl naphthalene * VOA QC for 8260c

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1 Victor M Rivera	6/14/16 1800	1 Fed Ex	2 FEDEX	6-15-16 9:25	2
3		3	4		4
5		5	Seal #	Preservation Lot Nos. applicable	On Ice:

321, 322, 323, 324, 325, 326, 327, 328, 329, 330

4.1, 4.0, 3.6, 3.7 4.1 3.7 3.9 X2 4.0 3.8 EP

5.1.5

CHAIN OF CUSTODY

Fresh Ponds Corporate Village, Building B
2235 Route 130, Dayton, NJ 08810
732-329-0200 FAX: 732-329-3499/3480

Fed Ex MSTL 8012453 5960

Accutest Job #: JC22206

Accutest Quote #:

Client Information	Facility Information	Analytical Information
Anderson Mulholland & Associates	Anderson Mulholland	
Name: 2700 Westchester Avenue	Project Name:	
Address: Purchase NY 10577	Location:	
City: Terry Taylor State: Zip	Project/PO #: 2Q16 Ground Water Sampling	
Send Report to: Phone #: 914-251-0400	FAX #: 914-251-1286	

Field ID / Point of Collection	Collection Date	Collection Time	Sampled By	Matrix	# of bottles	Preservation HCL	Preservation MeOH	Preservation DI/H2O	Preservation H2SO4	Preservation None	VOCs, 8260C	SVOC, 8270D	LMA, 8015B	Pesticides, 8081B	VMAVPH	BMAEPHR	1,4 Dioxane and naphthalene, Method 8270D SIM				
S-32	6/13/16	1808	NMR	GW		X				X	X	X	X	X	X	X	X	8			
RA-10S	6/14/16	1300	NMR	GW		X				X	X	X	X	X	X	X	X				
RA-10S MS	6/14/16	1325	NMR	GW		X				X	X	X	X	X	X	X	X	9			
RA-10S MSD	6/14/16	1349	NMR	GW		X				X	X	X	X	X	X	X	X				
RA-10D	6/14/16	1609	NMR	GW		X				X	X	X	X	X	X	X	X	10			
-				GW		X				X	X	X	X		X	X	X				
-				GW		X				X	X	X	X		X	X	X				
-				GW		X				X	X	X	X		X	X	X				
-				GW		X				X	X	X	X		X	X	X				
EB-061416	6/14/16	1020	JD	EB	14	X				X	X	X	X	X	X	X	X	11			
TB-061416	6/14/16	1604		TB	2	X					X							12			

Turnaround Information

- [X] 21 Day Standard — Approved By:
- [ ] 14 Day
- [ ] 7 Days EMERGENCY
- [ ] Other _____ (Days)

RUSH TAT is for FAX data unless previously approved.

Data Deliverable Information

- [ ] NJ Reduced
- [X] NJ Full
- [ ] FULL CLP
- [ ] Disk Deliverable
- [ ] Other (Specify)
- [ ] Commercial "A"
- [ ] Commercial "B"
- [ ] ASP Category B
- [ ] State Forms

Comments / Remarks

Federal Express ID # _____
Lab Trip Blank Date 6/14/16 Time 0630
For VOCs (8260C) add to report: Tetrahydrofuran, p-isopropyl toluene, 1-2-4 Trimethyl benzene, Benzyl choride and Tert amylchloride. For SVOCs (8270D) add to report: 1-methyl naphthalene

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1 Megan Ryan	6/14/16 1800	1 Fed Ex	2 FED EX	6-15-16 925	2
3		3	4		4
5		5	Seal #	Preserved where applicable	On Ice:

321, 322, 323, 324, 325, 326, 327, 328, 329, 330

4.1 / 4.0 / 3.6 / 3.7 / 4.1 / 3.7 / 3.9 / 4.2 / 4.0 / 3.9

5.1.5

EXECUTIVE NARRATIVE

SDG No:	JC22206	Laboratory:	Accutest, New Jersey
Analysis:	SW846-8270D	Number of Samples:	15
Location:	BMSMC, Building 5 Area Humacao, PR		

SUMMARY: Fifteen (15) samples were analyzed for the ABN TCL list following method SW846-8270D; Naphthalene and 1,4-Dioxane were also analyzed by SW846-8270D using the selective ion monitoring (SIM) technique. The sample results were assessed according to USEPA data validation guidance documents in the following order of precedence: EPA Hazardous Waste Support Section, SOP HW-35A, July 2015 –Revision 0. Semivolatile Data Validation. The QC criteria and data validation actions listed on the data review worksheets are from the primary guidance document, unless otherwise noted.

Results are valid and can be used for decision making purposes.

Critical issues: **None**
Major: **None**
Minor: **None**

Critical findings: **None**
Major findings: **None**
Minor findings:

1. All samples extracted and analyzed within method recommended holding time except for the cases described in the Data Review Worksheet. Samples JC22206-4 and JC22206-5 were re-extracted outside holding time to confirm presence of 1,4-dioxane found in corresponding method blank. Sample preservation was acceptable. Results for 1,4-dioxane were qualified as estimated (J) in affected samples.

2. Initial and continuing calibration verifications meet the method and guidance document required performance criteria except in the cases described in the Data Review Worhseet. Analytes not meeting the continuing calibration verification method performance criteria and validation guidance document performance criteria qualified as estimated (J) or (UJ) in affected samples.

Analytes not meeting the continuing calibration verification method performance criteria but were within the validation guidance document performance criteria were not qualified. .

No closing calibration verification included in data package. No action taken, professional judgment.

3. 1,4-Dioxane found in method blank. Samples JC22206-4 and JC22206-5 were re-extracted outside holding time to confirm presence of 1,4-dioxane found in corresponding method blank. Sample preservation was acceptable. Results for 1,4-dioxane were qualified as estimated (J) in affected samples.

4. bis(2-ethylhexyl) phthalate found in equipment blank. No action taken. bis(2-ethylhexyl)phthalate is a common laboratory contaminant and was detected at a concentration below the action level.

5. 2-Fluorophenol surrogate recovery outside control limit in sample JC22206-8 due to matrix interference, confirmed by re-extraction. None of the surrogates recovered in sample JC22206-9 due to dilution. No action taken, professional judgment.

6. MS/MSD % recoveries and RPD within laboratory control limits except for the cases described in this document.

MS/MSD % recovery for 1,4-dioxane in sample JC22206-9MS/MSD outside laboratory control limits. No action taken, analyte concentration high compared to amount spiked.

MS/MSD % recovery for 1,4-dioxane in sample JC22206-1MS/MSD (SIM) and in sample JC22206-9MS/MSD (SIM) outside laboratory control limits. No action taken, analyte concentration high compared to amount spiked.

Several analyes not meeting the RPD laboratory control limits but were within generally accepted and validation guidance document performance criteria. No qualification made on the basis of RPD.

COMMENTS: Results are valid and can be used for decision making purposes.

Reviewers Name: Rafael Infante
Chemist License 1888

Signature: 

Date: July 19, 2016

SAMPLE ORGANIC DATA SAMPLE SUMMARY

Sample ID: JC22206-1
Sample location: BMSMC Building 5 Area
Sampling date: 6/10/2016
Matrix: Groundwater

METHOD: 8270D

Analyte Name	Result	Units	Dilution Factor	Lab Flag	Validation	Reportable
2-Chlorophenol	5.4	ug/l	1	-	U	Yes
4-Chloro-3-methyl phenol	5.4	ug/l	1	-	U	Yes
2,4-Dichlorophenol	2.2	ug/l	1	-	U	Yes
2,4-Dimethylphenol	5.4	ug/l	1	-	U	Yes
2,4-Dinitrophenol	11	ug/l	1	-	U	Yes
4,6-Dinitro-o-cresol	5.4	ug/l	1	-	U	Yes
2-Methylphenol	2.2	ug/l	1	-	U	Yes
3&4-Methylphenol	2.2	ug/l	1	-	U	Yes
2-Nitrophenol	5.4	ug/l	1	-	UJ	Yes
4-Nitrophenol	11	ug/l	1	-	U	Yes
Pentachlorophenol	5.4	ug/l	1	-	U	Yes
Phenol	2.2	ug/l	1	-	U	Yes
2,3,4,6-Tetrachlorophenol	5.4	ug/l	1	-	UJ	Yes
2,4,5-Trichlorophenol	5.4	ug/l	1	-	U	Yes
2,4,6-Trichlorophenol	5.4	ug/l	1	-	U	Yes
Acenaphthene	1.1	ug/l	1	-	U	Yes
Acenaphthylene	1.1	ug/l	1	-	U	Yes
Acetophenone	2.2	ug/l	1	-	U	Yes
Anthracene	1.1	ug/l	1	-	U	Yes
Atrazine	2.2	ug/l	1	-	U	Yes
Benzaldehyde	5.4	ug/l	1	-	U	Yes
Benzo(a)anthracene	1.1	ug/l	1	-	U	Yes
Benzo(a)pyrene	1.1	ug/l	1	-	U	Yes
Benzo(b)fluoranthene	1.1	ug/l	1	-	U	Yes
Benzo(g,h,i)perylene	1.1	ug/l	1	-	U	Yes
Benzo(k)fluoranthene	1.1	ug/l	1	-	U	Yes
4-Bromophenyl phenyl ether	2.2	ug/l	1	-	U	Yes
Butyl benzyl phthalate	2.2	ug/l	1	-	U	Yes
1,1'-Biphenyl	1.1	ug/l	1	-	U	Yes
2-Chloronaphthalene	2.2	ug/l	1	-	U	Yes
4-Chloroaniline	7.5	ug/l	1	-	-	Yes
Carbazole	1.1	ug/l	1	-	U	Yes
Caprolactam	2.2	ug/l	1	-	U	Yes
Chrysene	1.1	ug/l	1	-	U	Yes
bis(2-Chloroethoxy)methane	2.2	ug/l	1	-	U	Yes
bis(2-Chloroethyl)ether	2.2	ug/l	1	-	U	Yes

bis(2-Chloroisopropyl)ether	2.2	ug/l	1	-	U	Yes
4-Chlorophenyl phenyl ether	2.2	ug/l	1	-	U	Yes
2,4-Dinitrotoluene	1.1	ug/l	1	-	U	Yes
2,6-Dinitrotoluene	1.1	ug/l	1	-	U	Yes
3,3'-Dichlorobenzidine	2.2	ug/l	1	-	U	Yes
1,4-Dioxane	13.6	ug/l	1	-	-	Yes
Dibenzo(a,h)anthracene	1.1	ug/l	1	-	U	Yes
Dibenzofuran	5.4	ug/l	1	-	U	Yes
Di-n-butyl phthalate	2.2	ug/l	1	-	U	Yes
Di-n-octyl phthalate	2.2	ug/l	1	-	U	Yes
Diethyl phthalate	2.2	ug/l	1	-	U	Yes
Dimethyl phthalate	2.2	ug/l	1	-	U	Yes
bis(2-Ethylhexyl)phthalate	2.2	ug/l	1	-	U	Yes
Fluoranthene	1.1	ug/l	1	-	U	Yes
Fluorene	1.1	ug/l	1	-	U	Yes
Hexachlorobenzene	1.1	ug/l	1	-	U	Yes
Hexachlorobutadiene	1.1	ug/l	1	-	U	Yes
Hexachlorocyclopentadiene	11	ug/l	1	-	U	Yes
Hexachloroethane	2.2	ug/l	1	-	U	Yes
Indeno(1,2,3-cd)pyrene	1.1	ug/l	1	-	U	Yes
Isophorone	2.2	ug/l	1	-	U	Yes
1-Methylnaphthalene	1.1	ug/l	1	-	U	Yes
2-Methylnaphthalene	1.1	ug/l	1	-	U	Yes
2-Nitroaniline	5.4	ug/l	1	-	U	Yes
3-Nitroaniline	5.4	ug/l	1	-	U	Yes
4-Nitroaniline	5.4	ug/l	1	-	U	Yes
Nitrobenzene	2.2	ug/l	1	-	U	Yes
N-Nitroso-di-n-propylamine	2.2	ug/l	1	-	U	Yes
Nitrosodiphenylamine	5.4	ug/l	1	-	U	Yes
Phenanthrene	1.1	ug/l	1	-	U	Yes
Pyrene	1.1	ug/l	1	-	U	Yes
1,2,4,5-Tetrachlorobenzene	2.2	ug/l	1	-	U	Yes
METHOD: 8270D (SIM)						
Naphthalene	0.11	ug/l	1	-	U	Yes

Sample ID: JC22206-2
Sample location: BMSMC Building 5 Area
Sampling date: 6/10/2016
Matrix: Groundwater

METHOD: 8270D

Analyte Name	Result	Units	Dilution Factor	Lab Flag	Validation	Reportable
2-Chlorophenol	5.4	ug/l	1	-	U	Yes
4-Chloro-3-methyl phenol	5.4	ug/l	1	-	U	Yes
2,4-Dichlorophenol	2.2	ug/l	1	-	U	Yes
2,4-Dimethylphenol	5.4	ug/l	1	-	U	Yes
2,4-Dinitrophenol	11	ug/l	1	-	U	Yes
4,6-Dinitro-o-cresol	5.4	ug/l	1	-	U	Yes
2-Methylphenol	2.2	ug/l	1	-	U	Yes
3&4-Methylphenol	2.2	ug/l	1	-	U	Yes
2-Nitrophenol	5.4	ug/l	1	-	UJ	Yes
4-Nitrophenol	11	ug/l	1	-	U	Yes
Pentachlorophenol	5.4	ug/l	1	-	U	Yes
Phenol	2.2	ug/l	1	-	U	Yes
2,3,4,6-Tetrachlorophenol	5.4	ug/l	1	-	UJ	Yes
2,4,5-Trichlorophenol	5.4	ug/l	1	-	U	Yes
2,4,6-Trichlorophenol	5.4	ug/l	1	-	U	Yes
Acenaphthene	1.1	ug/l	1	-	U	Yes
Acenaphthylene	1.1	ug/l	1	-	U	Yes
Acetophenone	2.2	ug/l	1	-	U	Yes
Anthracene	1.1	ug/l	1	-	U	Yes
Atrazine	2.2	ug/l	1	-	U	Yes
Benzaldehyde	5.4	ug/l	1	-	U	Yes
Benzo(a)anthracene	1.1	ug/l	1	-	U	Yes
Benzo(a)pyrene	1.1	ug/l	1	-	U	Yes
Benzo(b)fluoranthene	1.1	ug/l	1	-	U	Yes
Benzo(g,h,i)perylene	1.1	ug/l	1	-	U	Yes
Benzo(k)fluoranthene	1.1	ug/l	1	-	U	Yes
4-Bromophenyl phenyl ether	2.2	ug/l	1	-	U	Yes
Butyl benzyl phthalate	2.2	ug/l	1	-	U	Yes
1,1'-Biphenyl	1.1	ug/l	1	-	U	Yes
2-Chloronaphthalene	2.2	ug/l	1	-	U	Yes
4-Chloroaniline	5.4	ug/l	1	-	U	Yes
Carbazole	1.1	ug/l	1	-	U	Yes
Caprolactam	2.2	ug/l	1	-	U	Yes
Chrysene	1.1	ug/l	1	-	U	Yes
bis(2-Chloroethoxy)methane	2.2	ug/l	1	-	U	Yes
bis(2-Chloroethyl)ether	2.2	ug/l	1	-	U	Yes
bis(2-Chloroisopropyl)ether	2.2	ug/l	1	-	U	Yes

4-Chlorophenyl phenyl ether	2.2	ug/l	1	-	U	Yes
2,4-Dinitrotoluene	1.1	ug/l	1	-	U	Yes
2,6-Dinitrotoluene	1.1	ug/l	1	-	U	Yes
3,3'-Dichlorobenzidine	2.2	ug/l	1	-	U	Yes
Dibenzo(a,h)anthracene	1.1	ug/l	1	-	U	Yes
Dibenzofuran	5.4	ug/l	1	-	U	Yes
Di-n-butyl phthalate	2.2	ug/l	1	-	U	Yes
Di-n-octyl phthalate	2.2	ug/l	1	-	U	Yes
Diethyl phthalate	2.2	ug/l	1	-	U	Yes
Dimethyl phthalate	2.2	ug/l	1	-	U	Yes
bis(2-Ethylhexyl)phthalate	2.2	ug/l	1	-	U	Yes
Fluoranthene	1.1	ug/l	1	-	U	Yes
Fluorene	0.77	ug/l	1	J	UJ	Yes
Hexachlorobenzene	1.1	ug/l	1	-	U	Yes
Hexachlorobutadiene	1.1	ug/l	1	-	U	Yes
Hexachlorocyclopentadiene	11	ug/l	1	-	U	Yes
Hexachloroethane	2.2	ug/l	1	-	U	Yes
Indeno(1,2,3-cd)pyrene	1.1	ug/l	1	-	U	Yes
Isophorone	2.2	ug/l	1	-	U	Yes
1-Methylnaphthalene	2.6	ug/l	1	-	-	Yes
2-Methylnaphthalene	1.1	ug/l	1	-	U	Yes
2-Nitroaniline	5.4	ug/l	1	-	U	Yes
3-Nitroaniline	5.4	ug/l	1	-	U	Yes
4-Nitroaniline	5.4	ug/l	1	-	U	Yes
Nitrobenzene	2.2	ug/l	1	-	U	Yes
N-Nitroso-di-n-propylamine	2.2	ug/l	1	-	U	Yes
Nitrosodiphenylamine	5.4	ug/l	1	-	U	Yes
Phenanthrene	1.1	ug/l	1	-	U	Yes
Pyrene	1.1	ug/l	J	-	U	Yes
1,2,4,5-Tetrachlorobenzene	2.2	ug/l	1	-	U	Yes
METHOD: 8270D (SIM)						
Naphthalene	0.11	ug/l	1	-	U	Yes
1,4-Dioxane	0.723	ug/l	1	-	-	Yes

Sample ID: JC22206-3
Sample location: BMSMC Building 5 Area
Sampling date: 6/10/2016
Matrix: Groundwater

METHOD: 8270D

Analyte Name	Result	Units	Dilution Factor	Lab Flag	Validation	Reportable
2-Chlorophenol	5.3	ug/l	1	-	U	Yes
4-Chloro-3-methyl phenol	5.3	ug/l	1	-	U	Yes
2,4-Dichlorophenol	2.1	ug/l	1	-	U	Yes
2,4-Dimethylphenol	5.3	ug/l	1	-	U	Yes
2,4-Dinitrophenol	11	ug/l	1	-	U	Yes
4,6-Dinitro-o-cresol	5.3	ug/l	1	-	U	Yes
2-Methylphenol	2.1	ug/l	1	-	U	Yes
3&4-Methylphenol	2.1	ug/l	1	-	U	Yes
2-Nitrophenol	5.3	ug/l	1	-	U	Yes
4-Nitrophenol	11	ug/l	1	-	U	Yes
Pentachlorophenol	5.3	ug/l	1	-	U	Yes
Phenol	2.1	ug/l	1	-	U	Yes
2,3,4,6-Tetrachlorophenol	5.3	ug/l	1	-	U	Yes
2,4,5-Trichlorophenol	5.3	ug/l	1	-	U	Yes
2,4,6-Trichlorophenol	5.3	ug/l	1	-	U	Yes
Acenaphthene	1.1	ug/l	1	-	U	Yes
Acenaphthylene	1.1	ug/l	1	-	U	Yes
Acetophenone	2.1	ug/l	1	-	UJ	Yes
Anthracene	1.1	ug/l	1	-	U	Yes
Atrazine	2.1	ug/l	1	-	U	Yes
Benzaldehyde	5.3	ug/l	1	-	U	Yes
Benzo(a)anthracene	1.1	ug/l	1	-	U	Yes
Benzo(a)pyrene	1.1	ug/l	1	-	U	Yes
Benzo(b)fluoranthene	1.1	ug/l	1	-	U	Yes
Benzo(g,h,i)perylene	1.1	ug/l	1	-	U	Yes
Benzo(k)fluoranthene	1.1	ug/l	1	-	U	Yes
4-Bromophenyl phenyl ether	2.1	ug/l	1	-	U	Yes
Butyl benzyl phthalate	2.1	ug/l	1	-	U	Yes
1,1'-Biphenyl	1.1	ug/l	1	-	U	Yes
2-Chloronaphthalene	2.1	ug/l	1	-	U	Yes
4-Chloroaniline	5.3	ug/l	1	-	U	Yes
Carbazole	1.1	ug/l	1	-	U	Yes
Caprolactam	2.1	ug/l	1	-	U	Yes
Chrysene	1.1	ug/l	1	-	U	Yes
bis(2-Chloroethoxy)methane	2.1	ug/l	1	-	U	Yes
bis(2-Chloroethyl)ether	2.1	ug/l	1	-	U	Yes
bis(2-Chloroisopropyl)ether	2.1	ug/l	1	-	U	Yes

4-Chlorophenyl phenyl ether	2.1	ug/l	1	-	U	Yes
2,4-Dinitrotoluene	1.1	ug/l	1	-	U	Yes
2,6-Dinitrotoluene	1.1	ug/l	1	-	U	Yes
3,3'-Dichlorobenzidine	2.0	ug/l	1	-	U	Yes
Dibenzo(a,h)anthracene	1.1	ug/l	1	-	U	Yes
Dibenzofuran	5.3	ug/l	1	-	U	Yes
Di-n-butyl phthalate	2.1	ug/l	1	-	U	Yes
Di-n-octyl phthalate	2.1	ug/l	1	-	U	Yes
Diethyl phthalate	2.1	ug/l	1	-	U	Yes
Dimethyl phthalate	2.1	ug/l	1	-	U	Yes
bis(2-Ethylhexyl)phthalate	2.1	ug/l	1	-	U	Yes
Fluoranthene	1.1	ug/l	1	-	U	Yes
Fluorene	1.1	ug/l	1	-	U	Yes
Hexachlorobenzene	1.1	ug/l	1	-	U	Yes
Hexachlorobutadiene	1.1	ug/l	1	-	U	Yes
Hexachlorocyclopentadiene	11	ug/l	1	-	U	Yes
Hexachloroethane	2.1	ug/l	1	-	U	Yes
Indeno(1,2,3-cd)pyrene	1.1	ug/l	1	-	U	Yes
Isophorone	2.0	ug/l	1	-	U	Yes
1-Methylnaphthalene	1.1	ug/l	1	-	U	Yes
2-Methylnaphthalene	1.1	ug/l	1	-	U	Yes
2-Nitroaniline	5.3	ug/l	1	-	U	Yes
3-Nitroaniline	5.3	ug/l	1	-	U	Yes
4-Nitroaniline	5.3	ug/l	1	-	U	Yes
Nitrobenzene	2.1	ug/l	1	-	U	Yes
N-Nitroso-di-n-propylamine	2.1	ug/l	1	-	UJ	Yes
Nitrosodiphenylamine	5.3	ug/l	1	-	U	Yes
Phenanthrene	1.1	ug/l	1	-	U	Yes
Pyrene	1.1	ug/l	1	-	U	Yes
1,2,4,5-Tetrachlorobenzene	2.1	ug/l	1	-	U	Yes

METHOD: 8270D (SIM)

Naphthalene	0.11	ug/l	1	-	U	Yes
1,4-Dioxane	1.36	ug/l	1	-	-	Yes

Sample ID: JC22206-4
Sample location: BMSMC Building 5 Area
Sampling date: 6/13/2016
Matrix: Groundwater

METHOD: 8270D

Analyte Name	Result	Units	Dilution Factor	Lab Flag	Validation	Reportable
2-Chlorophenol	5.0	ug/l	1	-	U	Yes
4-Chloro-3-methyl phenol	5.0	ug/l	1	-	U	Yes
2,4-Dichlorophenol	2.0	ug/l	1	-	U	Yes
2,4-Dimethylphenol	5.0	ug/l	1	-	U	Yes
2,4-Dinitrophenol	10	ug/l	1	-	U	Yes
4,6-Dinitro-o-cresol	5.0	ug/l	1	-	U	Yes
2-Methylphenol	2.0	ug/l	1	-	U	Yes
3&4-Methylphenol	2.0	ug/l	1	-	U	Yes
2-Nitrophenol	5.0	ug/l	1	-	U	Yes
4-Nitrophenol	10	ug/l	1	-	U	Yes
Pentachlorophenol	5.0	ug/l	1	-	U	Yes
Phenol	2.0	ug/l	1	-	U	Yes
2,3,4,6-Tetrachlorophenol	5.0	ug/l	1	-	U	Yes
2,4,5-Trichlorophenol	5.0	ug/l	1	-	U	Yes
2,4,6-Trichlorophenol	5.0	ug/l	1	-	U	Yes
Acenaphthene	1.0	ug/l	1	-	U	Yes
Acenaphthylene	1.0	ug/l	1	-	U	Yes
Acetophenone	2.0	ug/l	1	-	U	Yes
Anthracene	1.0	ug/l	1	-	U	Yes
Atrazine	2.0	ug/l	1	-	U	Yes
Benzaldehyde	5.0	ug/l	1	-	U	Yes
Benzo(a)anthracene	1.0	ug/l	1	-	U	Yes
Benzo(a)pyrene	1.0	ug/l	1	-	U	Yes
Benzo(b)fluoranthene	1.0	ug/l	1	-	U	Yes
Benzo(g,h,i)perylene	1.0	ug/l	1	-	U	Yes
Benzo(k)fluoranthene	1.0	ug/l	1	-	U	Yes
4-Bromophenyl phenyl ether	2.0	ug/l	1	-	U	Yes
Butyl benzyl phthalate	2.0	ug/l	1	-	U	Yes
1,1'-Biphenyl	1.0	ug/l	1	-	U	Yes
2-Chloronaphthalene	2.0	ug/l	1	-	U	Yes
4-Chloroaniline	5.0	ug/l	1	-	U	Yes
Carbazole	1.0	ug/l	1	-	U	Yes
Caprolactam	2.0	ug/l	1	-	U	Yes
Chrysene	1.0	ug/l	1	-	U	Yes
bis(2-Chloroethoxy)methane	2.0	ug/l	1	-	U	Yes
bis(2-Chloroethyl)ether	2.0	ug/l	1	-	U	Yes

bis(2-Chloroisopropyl)ether	2.0	ug/l	1	-	U	Yes
4-Chlorophenyl phenyl ether	2.0	ug/l	1	-	U	Yes
2,4-Dinitrotoluene	1.0	ug/l	1	-	U	Yes
2,6-Dinitrotoluene	1.0	ug/l	1	-	U	Yes
3,3'-Dichlorobenzidine	2.0	ug/l	1	-	U	Yes
Dibenzo(a,h)anthracene	1.0	ug/l	1	-	U	Yes
Dibenzofuran	5.0	ug/l	1	-	U	Yes
Di-n-butyl phthalate	2.0	ug/l	1	-	U	Yes
Di-n-octyl phthalate	2.0	ug/l	1	-	U	Yes
Diethyl phthalate	2.0	ug/l	1	-	U	Yes
Dimethyl phthalate	2.0	ug/l	1	-	U	Yes
bis(2-Ethylhexyl)phthalate	2.1	ug/l	1	-	-	Yes
Fluoranthene	1.0	ug/l	1	-	U	Yes
Fluorene	1.0	ug/l	1	-	U	Yes
Hexachlorobenzene	1.0	ug/l	1	-	U	Yes
Hexachlorobutadiene	1.0	ug/l	1	-	U	Yes
Hexachlorocyclopentadiene	10	ug/l	1	-	U	Yes
Hexachloroethane	2.0	ug/l	1	-	U	Yes
Indeno(1,2,3-cd)pyrene	1.0	ug/l	1	-	U	Yes
Isophorone	2.0	ug/l	1	-	U	Yes
1-Methylnaphthalene	1.0	ug/l	1	-	U	Yes
2-Methylnaphthalene	1.0	ug/l	1	-	U	Yes
2-Nitroaniline	5.0	ug/l	1	-	U	Yes
3-Nitroaniline	5.0	ug/l	1	-	U	Yes
4-Nitroaniline	5.0	ug/l	1	-	U	Yes
Nitrobenzene	2.0	ug/l	1	-	U	Yes
N-Nitroso-di-n-propylamine	2.0	ug/l	1	-	U	Yes
Nitrosodiphenylamine	5.0	ug/l	1	-	U	Yes
Phenanthrene	1.0	ug/l	1	-	U	Yes
Pyrene	1.0	ug/l	1	J	UJ	Yes
1,2,4,5-Tetrachlorobenzene	2.0	ug/l	1	-	U	Yes
METHOD: 8270D (SIM)						
Naphthalene	0.10	ug/l	1	-	U	Yes
1,4-Dioxane	2.86	ug/l	10	B	J	Yes

Sample ID: JC22206-5
Sample location: BMSMC Building 5 Area
Sampling date: 6/8/2016
Matrix: Groundwater

METHOD: 8270D

Analyte Name	Result	Units	Dilution Factor	Lab Flag	Validation	Reportable
2-Chlorophenol	5.0	ug/l	1	-	U	Yes
4-Chloro-3-methyl phenol	5.0	ug/l	1	-	U	Yes
2,4-Dichlorophenol	2.0	ug/l	1	-	U	Yes
2,4-Dimethylphenol	5.0	ug/l	1	-	U	Yes
2,4-Dinitrophenol	10	ug/l	1	-	U	Yes
4,6-Dinitro-o-cresol	5.0	ug/l	1	-	U	Yes
2-Methylphenol	2.0	ug/l	1	-	U	Yes
3&4-Methylphenol	2.0	ug/l	1	-	U	Yes
2-Nitrophenol	5.0	ug/l	1	-	U	Yes
4-Nitrophenol	10	ug/l	1	-	U	Yes
Pentachlorophenol	5.0	ug/l	1	-	U	Yes
Phenol	2.0	ug/l	1	-	U	Yes
2,3,4,6-Tetrachlorophenol	5.0	ug/l	1	-	U	Yes
2,4,5-Trichlorophenol	5.0	ug/l	1	-	U	Yes
2,4,6-Trichlorophenol	5.0	ug/l	1	-	U	Yes
Acenaphthene	1.0	ug/l	1	-	U	Yes
Acenaphthylene	1.0	ug/l	1	-	U	Yes
Acetophenone	2.0	ug/l	1	-	U	Yes
Anthracene	1.0	ug/l	1	-	U	Yes
Atrazine	2.0	ug/l	1	-	U	Yes
Benzaldehyde	5.0	ug/l	1	-	U	Yes
Benzo(a)anthracene	1.0	ug/l	1	-	U	Yes
Benzo(a)pyrene	1.0	ug/l	1	-	U	Yes
Benzo(b)fluoranthene	1.0	ug/l	1	-	U	Yes
Benzo(g,h,i)perylene	1.0	ug/l	1	-	U	Yes
Benzo(k)fluoranthene	1.0	ug/l	1	-	U	Yes
4-Bromophenyl phenyl ether	2.0	ug/l	1	-	U	Yes
Butyl benzyl phthalate	2.0	ug/l	1	-	U	Yes
1,1'-Biphenyl	1.0	ug/l	1	-	U	Yes
2-Chloronaphthalene	2.0	ug/l	1	-	U	Yes
4-Chloroaniline	1.0	ug/l	1	-	U	Yes
Carbazole	1.0	ug/l	1	-	U	Yes
Caprolactam	2.0	ug/l	1	-	U	Yes
Chrysene	1.0	ug/l	1	-	U	Yes
bis(2-Chloroethoxy)methane	2.0	ug/l	1	-	U	Yes
bis(2-Chloroethyl)ether	2.0	ug/l	1	-	U	Yes
bis(2-Chloroisopropyl)ether	2.0	ug/l	1	-	U	Yes
4-Chlorophenyl phenyl ether	2.0	ug/l	1	-	U	Yes

2,4-Dinitrotoluene	1.0	ug/l	1	-	UJ	Yes
2,6-Dinitrotoluene	1.0	ug/l	1	-	U	Yes
3,3'-Dichlorobenzidine	2.0	ug/l	1	-	U	Yes
Dibenzo(a,h)anthracene	1.0	ug/l	1	-	U	Yes
Dibenzofuran	5.0	ug/l	1	-	U	Yes
Di-n-butyl phthalate	2.0	ug/l	1	-	U	Yes
Di-n-octyl phthalate	2.0	ug/l	1	-	U	Yes
Diethyl phthalate	2.0	ug/l	1	-	U	Yes
Dimethyl phthalate	2.0	ug/l	1	-	U	Yes
bis(2-Ethylhexyl)phthalate	18.9	ug/l	1	-	-	Yes
Fluoranthene	1.0	ug/l	1	-	U	Yes
Fluorene	1.0	ug/l	1	-	U	Yes
Hexachlorobenzene	1.0	ug/l	1	-	U	Yes
Hexachlorobutadiene	1.0	ug/l	1	-	U	Yes
Hexachlorocyclopentadiene	10	ug/l	1	-	U	Yes
Hexachloroethane	2.0	ug/l	1	-	U	Yes
Indeno(1,2,3-cd)pyrene	1.0	ug/l	1	-	U	Yes
Isophorone	2.0	ug/l	1	-	U	Yes
1-Methylnaphthalene	1.0	ug/l	1	-	U	Yes
2-Methylnaphthalene	1.0	ug/l	1	-	U	Yes
2-Nitroaniline	5.0	ug/l	1	-	U	Yes
3-Nitroaniline	5.0	ug/l	1	-	U	Yes
4-Nitroaniline	5.0	ug/l	1	-	U	Yes
Nitrobenzene	2.0	ug/l	1	-	U	Yes
N-Nitroso-di-n-propylamine	2.0	ug/l	1	-	U	Yes
Nitrosodiphenylamine	5.0	ug/l	1	-	U	Yes
Phenanthrene	1.0	ug/l	1	-	U	Yes
Pyrene	1.0	ug/l	1	-	U	Yes
1,2,4,5-Tetrachlorobenzene	2.0	ug/l	1	-	U	Yes
METHOD: 8270D (SIM)						
Naphthalene	0.10	ug/l	1	-	U	Yes
1,4-Dioxane	3.46	ug/l	1	-	J	Yes

Sample ID: JC22206-6
Sample location: BMSMC Building 5 Area
Sampling date: 6/13/2016
Matrix: Groundwater

METHOD: 8270D

Analyte Name	Result	Units	Dilution Factor	Lab Flag	Validation	Reportable
2-Chlorophenol	5.0	ug/l	1	-	U	Yes
4-Chloro-3-methyl phenol	5.0	ug/l	1	-	U	Yes
2,4-Dichlorophenol	2.0	ug/l	1	-	U	Yes
2,4-Dimethylphenol	5.0	ug/l	1	-	U	Yes
2,4-Dinitrophenol	10	ug/l	1	-	U	Yes
4,6-Dinitro-o-cresol	5.0	ug/l	1	-	U	Yes
2-Methylphenol	2.0	ug/l	1	-	U	Yes
3&4-Methylphenol	2.0	ug/l	1	-	U	Yes
2-Nitrophenol	5.0	ug/l	1	-	U	Yes
4-Nitrophenol	10	ug/l	1	-	U	Yes
Pentachlorophenol	5.0	ug/l	1	-	U	Yes
Phenol	2.0	ug/l	1	-	U	Yes
2,3,4,6-Tetrachlorophenol	5.0	ug/l	1	-	U	Yes
2,4,5-Trichlorophenol	5.0	ug/l	1	-	U	Yes
2,4,6-Trichlorophenol	5.0	ug/l	1	-	U	Yes
Acenaphthene	1.0	ug/l	1	-	U	Yes
Acenaphthylene	1.0	ug/l	1	-	U	Yes
Acetophenone	2.0	ug/l	1	-	U	Yes
Anthracene	1.0	ug/l	1	-	U	Yes
Atrazine	2.0	ug/l	1	-	U	Yes
Benzaldehyde	5.0	ug/l	1	-	U	Yes
Benzo(a)anthracene	1.0	ug/l	1	-	U	Yes
Benzo(a)pyrene	1.0	ug/l	1	-	U	Yes
Benzo(b)fluoranthene	1.0	ug/l	1	-	U	Yes
Benzo(g,h,i)perylene	1.0	ug/l	1	-	U	Yes
Benzo(k)fluoranthene	1.0	ug/l	1	-	U	Yes
4-Bromophenyl phenyl ether	2.0	ug/l	1	-	U	Yes
Butyl benzyl phthalate	2.0	ug/l	1	-	U	Yes
1,1'-Biphenyl	1.0	ug/l	1	-	U	Yes
2-Chloronaphthalene	2.0	ug/l	1	-	U	Yes
4-Chloroaniline	5.0	ug/l	1	-	U	Yes
Carbazole	1.0	ug/l	1	-	U	Yes
Caprolactam	2.0	ug/l	1	-	U	Yes
Chrysene	1.0	ug/l	1	-	U	Yes
bis(2-Chloroethoxy)methane	2.0	ug/l	1	-	U	Yes
bis(2-Chloroethyl)ether	2.0	ug/l	1	-	U	Yes
bis(2-Chloroisopropyl)ether	2.0	ug/l	1	-	U	Yes
4-Chlorophenyl phenyl ether	2.0	ug/l	1	-	U	Yes

2,4-Dinitrotoluene	1.0	ug/l	1	-	U	Yes
2,6-Dinitrotoluene	1.0	ug/l	1	-	U	Yes
3,3'-Dichlorobenzidine	2.0	ug/l	1	-	U	Yes
1,4-Dioxane	25.2	ug/l	1	-	-	Yes
Dibenzo(a,h)anthracene	1.0	ug/l	1	-	U	Yes
Dibenzofuran	5.0	ug/l	1	-	U	Yes
Di-n-butyl phthalate	2.0	ug/l	1	-	U	Yes
Di-n-octyl phthalate	2.0	ug/l	1	-	U	Yes
Diethyl phthalate	2.0	ug/l	1	-	U	Yes
Dimethyl phthalate	2.0	ug/l	1	-	U	Yes
bis(2-Ethylhexyl)phthalate	2.0	ug/l	1	-	-	Yes
Fluoranthene	1.0	ug/l	1	-	U	Yes
Fluorene	1.0	ug/l	1	-	U	Yes
Hexachlorobenzene	1.0	ug/l	1	-	U	Yes
Hexachlorobutadiene	1.0	ug/l	1	-	U	Yes
Hexachlorocyclopentadiene	10	ug/l	1	-	U	Yes
Hexachloroethane	2.0	ug/l	1	-	U	Yes
Indeno(1,2,3-cd)pyrene	1.0	ug/l	1	-	U	Yes
Isophorone	2.0	ug/l	1	-	U	Yes
1-Methylnaphthalene	1.0	ug/l	1	-	U	Yes
2-Methylnaphthalene	1.0	ug/l	1	-	U	Yes
2-Nitroaniline	5.0	ug/l	1	-	U	Yes
3-Nitroaniline	5.0	ug/l	1	-	U	Yes
4-Nitroaniline	5.0	ug/l	1	-	U	Yes
Nitrobenzene	2.0	ug/l	1	-	U	Yes
N-Nitroso-di-n-propylamine	2.0	ug/l	1	-	U	Yes
Nitrosodiphenylamine	5.0	ug/l	1	-	U	Yes
Phenanthrene	1.0	ug/l	1	-	U	Yes
Pyrene	1.0	ug/l	1	-	U	Yes
1,2,4,5-Tetrachlorobenzene	2.0	ug/l	1	-	U	Yes
	METHOD: 8270D (SIM)					
Naphthalene	0.10	ug/l	1	-	U	Yes

Sample ID: JC22206-7
Sample location: BMSMC Building 5 Area
Sampling date: 6/13/2016
Matrix: Groundwater

METHOD: 8270D

Analyte Name	Result	Units	Dilution Factor	Lab Flag	Validation	Reportable
2-Chlorophenol	5.0	ug/l	1	-	U	Yes
4-Chloro-3-methyl phenol	5.0	ug/l	1	-	U	Yes
2,4-Dichlorophenol	2.0	ug/l	1	-	U	Yes
2,4-Dimethylphenol	5.0	ug/l	1	-	U	Yes
2,4-Dinitrophenol	10	ug/l	1	-	U	Yes
4,6-Dinitro-o-cresol	5.0	ug/l	1	-	U	Yes
2-Methylphenol	2.0	ug/l	1	-	U	Yes
3&4-Methylphenol	2.0	ug/l	1	-	U	Yes
2-Nitrophenol	5.0	ug/l	1	-	U	Yes
4-Nitrophenol	10	ug/l	1	-	U	Yes
Pentachlorophenol	5.0	ug/l	1	-	U	Yes
Phenol	2.0	ug/l	1	-	U	Yes
2,3,4,6-Tetrachlorophenol	5.0	ug/l	1	-	U	Yes
2,4,5-Trichlorophenol	5.0	ug/l	1	-	U	Yes
2,4,6-Trichlorophenol	5.0	ug/l	1	-	U	Yes
Acenaphthene	1.0	ug/l	1	-	U	Yes
Acenaphthylene	1.0	ug/l	1	-	U	Yes
Acetophenone	2.0	ug/l	1	-	U	Yes
Anthracene	1.0	ug/l	1	-	U	Yes
Atrazine	2.0	ug/l	1	-	U	Yes
Benzaldehyde	5.0	ug/l	1	-	U	Yes
Benzo(a)anthracene	1.0	ug/l	1	-	U	Yes
Benzo(a)pyrene	1.0	ug/l	1	-	U	Yes
Benzo(b)fluoranthene	1.0	ug/l	1	-	U	Yes
Benzo(g,h,i)perylene	1.0	ug/l	1	-	U	Yes
Benzo(k)fluoranthene	1.0	ug/l	1	-	U	Yes
4-Bromophenyl phenyl ether	2.0	ug/l	1	-	U	Yes
Butyl benzyl phthalate	2.0	ug/l	1	-	U	Yes
1,1'-Biphenyl	1.0	ug/l	1	-	U	Yes
2-Chloronaphthalene	2.0	ug/l	1	-	U	Yes
4-Chloroaniline	5.0	ug/l	1	-	U	Yes
Carbazole	1.0	ug/l	1	-	U	Yes
Caprolactam	2.0	ug/l	1	-	U	Yes
Chrysene	1.0	ug/l	1	-	U	Yes
bis(2-Chloroethoxy)methane	2.0	ug/l	1	-	U	Yes
bis(2-Chloroethyl)ether	2.0	ug/l	1	-	U	Yes
bis(2-Chloroisopropyl)ether	2.0	ug/l	1	-	U	Yes
4-Chlorophenyl phenyl ether	2.0	ug/l	1	-	U	Yes

2,4-Dinitrotoluene	1.0	ug/l	1	-	UJ	Yes
2,6-Dinitrotoluene	1.0	ug/l	1	-	U	Yes
3,3'-Dichlorobenzidine	2.0	ug/l	1	-	U	Yes
1,4-Dioxane	307	ug/l	10	-	-	Yes
Dibenzo(a,h)anthracene	1.0	ug/l	1	-	U	Yes
Dibenzofuran	5.0	ug/l	1	-	U	Yes
Di-n-butyl phthalate	2.0	ug/l	1	-	U	Yes
Di-n-octyl phthalate	2.0	ug/l	1	-	U	Yes
Diethyl phthalate	2.0	ug/l	1	-	U	Yes
Dimethyl phthalate	2.0	ug/l	1	-	U	Yes
bis(2-Ethylhexyl)phthalate	2.5	ug/l	1	-	-	Yes
Fluoranthene	1.0	ug/l	1	-	U	Yes
Fluorene	1.0	ug/l	1	-	U	Yes
Hexachlorobenzene	1.0	ug/l	1	-	U	Yes
Hexachlorobutadiene	1.0	ug/l	1	-	U	Yes
Hexachlorocyclopentadiene	10	ug/l	1	-	U	Yes
Hexachloroethane	2.0	ug/l	1	-	U	Yes
Indeno(1,2,3-cd)pyrene	1.0	ug/l	1	-	U	Yes
Isophorone	2.0	ug/l	1	-	U	Yes
1-Methylnaphthalene	1.0	ug/l	1	-	U	Yes
2-Methylnaphthalene	1.0	ug/l	1	-	U	Yes
2-Nitroaniline	5.0	ug/l	1	-	U	Yes
3-Nitroaniline	5.0	ug/l	1	-	U	Yes
4-Nitroaniline	5.0	ug/l	1	-	U	Yes
Nitrobenzene	2.0	ug/l	1	-	U	Yes
N-Nitroso-di-n-propylamine	2.0	ug/l	1	-	U	Yes
Nitrosodiphenylamine	5.0	ug/l	1	-	U	Yes
Phenanthrene	1.0	ug/l	1	-	U	Yes
Pyrene	1.0	ug/l	1	-	U	Yes
1,2,4,5-Tetrachlorobenzene	2.0	ug/l	1	-	U	Yes
	METHOD: 8270D (SIM)					
Naphthalene	0.10	ug/l	1	-	U	Yes

Sample ID: JC22206-8
Sample location: BMSMC Building 5 Area
Sampling date: 6/13/2016
Matrix: Groundwater

METHOD: 8270D

Analyte Name	Result	Units	Dilution Factor	Lab Flag	Validation	Reportable
2-Chlorophenol	5.0	ug/l	1	-	U	Yes
4-Chloro-3-methyl phenol	5.0	ug/l	1	-	U	Yes
2,4-Dichlorophenol	2.0	ug/l	1	-	U	Yes
2,4-Dimethylphenol	67.8	ug/l	1	-	-	Yes
2,4-Dinitrophenol	10	ug/l	1	-	U	Yes
4,6-Dinitro-o-cresol	5.0	ug/l	1	-	U	Yes
2-Methylphenol	1.1	ug/l	1	J	UJ	Yes
3&4-Methylphenol	2.0	ug/l	1	-	U	Yes
2-Nitrophenol	5.0	ug/l	1	-	U	Yes
4-Nitrophenol	10	ug/l	1	-	U	Yes
Pentachlorophenol	5.0	ug/l	1	-	U	Yes
Phenol	2.0	ug/l	1	-	U	Yes
2,3,4,6-Tetrachlorophenol	5.0	ug/l	1	-	U	Yes
2,4,5-Trichlorophenol	5.0	ug/l	1	-	U	Yes
2,4,6-Trichlorophenol	5.0	ug/l	1	-	U	Yes
Acenaphthene	1.0	ug/l	1	-	U	Yes
Acenaphthylene	1.0	ug/l	1	-	U	Yes
Acetophenone	33.1	ug/l	1	-	-	Yes
Anthracene	1.0	ug/l	1	-	U	Yes
Atrazine	2.0	ug/l	1	-	U	Yes
Benzaldehyde	5.0	ug/l	1	-	U	Yes
Benzo(a)anthracene	1.0	ug/l	1	-	U	Yes
Benzo(a)pyrene	1.0	ug/l	1	-	U	Yes
Benzo(b)fluoranthene	1.0	ug/l	1	-	U	Yes
Benzo(g,h,i)perylene	1.0	ug/l	1	-	U	Yes
Benzo(k)fluoranthene	1.0	ug/l	1	-	U	Yes
4-Bromophenyl phenyl ether	2.0	ug/l	1	-	U	Yes
Butyl benzyl phthalate	2.0	ug/l	1	-	U	Yes
1,1'-Biphenyl	1.0	ug/l	1	-	U	Yes
2-Chloronaphthalene	2.0	ug/l	1	-	U	Yes
4-Chloroaniline	5.0	ug/l	1	-	U	Yes
Carbazole	1.0	ug/l	1	-	U	Yes
Caprolactam	2.0	ug/l	1	-	U	Yes
Chrysene	1.0	ug/l	1	-	U	Yes
bis(2-Chloroethoxy)methane	2.0	ug/l	1	-	U	Yes
bis(2-Chloroethyl)ether	2.0	ug/l	1	-	U	Yes
bis(2-Chloroisopropyl)ether	2.0	ug/l	1	-	U	Yes

4-Chlorophenyl phenyl ether	2.0	ug/l	1	-	U	Yes
2,4-Dinitrotoluene	1.0	ug/l	1	-	U	Yes
2,6-Dinitrotoluene	1.0	ug/l	1	-	U	Yes
3,3'-Dichlorobenzidine	2.0	ug/l	1	-	U	Yes
Dibenzo(a,h)anthracene	1.0	ug/l	1	-	U	Yes
Dibenzofuran	5.0	ug/l	1	-	U	Yes
Di-n-butyl phthalate	2.0	ug/l	1	-	U	Yes
Di-n-octyl phthalate	2.0	ug/l	1	-	U	Yes
Diethyl phthalate	2.0	ug/l	1	-	U	Yes
Dimethyl phthalate	2.0	ug/l	1	-	U	Yes
bis(2-Ethylhexyl)phthalate	2.5	ug/l	1	-	U	Yes
Fluoranthene	1.0	ug/l	1	-	U	Yes
Fluorene	1.0	ug/l	1	-	U	Yes
Hexachlorobenzene	1.0	ug/l	1	-	U	Yes
Hexachlorobutadiene	1.0	ug/l	1	-	U	Yes
Hexachlorocyclopentadiene	10	ug/l	1	-	U	Yes
Hexachloroethane	2.0	ug/l	1	-	U	Yes
Indeno(1,2,3-cd)pyrene	1.0	ug/l	1	-	U	Yes
Isophorone	2.0	ug/l	1	-	U	Yes
1-Methylnaphthalene	1.0	ug/l	1	-	U	Yes
2-Methylnaphthalene	1.0	ug/l	1	-	U	Yes
2-Nitroaniline	5.0	ug/l	1	-	UJ	Yes
3-Nitroaniline	5.0	ug/l	1	-	U	Yes
4-Nitroaniline	5.0	ug/l	1	-	U	Yes
Nitrobenzene	2.0	ug/l	1	-	U	Yes
N-Nitroso-di-n-propylamine	2.0	ug/l	1	-	U	Yes
Nitrosodiphenylamine	5.0	ug/l	1	-	U	Yes
Phenanthrene	1.0	ug/l	1	-	U	Yes
Pyrene	1.0	ug/l	1	-	U	Yes
1,2,4,5-Tetrachlorobenzene	2.0	ug/l	1	-	U	Yes
	METHOD: 8270D (SIM)					
Naphthalene	0.372	ug/l	1	-	-	Yes
1,4-Dioxane	3.18	ug/l	10	-	-	Yes

Sample ID: JC22206-9
Sample location: BMSMC Building 5 Area
Sampling date: 6/14/2016
Matrix: Groundwater

METHOD: 8270D

Analyte Name	Result	Units	Dilution Factor	Lab Flag	Validation	Reportable
2-Chlorophenol	5.0	ug/l	1	-	U	Yes
4-Chloro-3-methyl phenol	5.0	ug/l	1	-	U	Yes
2,4-Dichlorophenol	2.0	ug/l	1	-	U	Yes
2,4-Dimethylphenol	5.0	ug/l	1	-	U	Yes
2,4-Dinitrophenol	10	ug/l	1	-	U	Yes
4,6-Dinitro-o-cresol	5.0	ug/l	1	-	U	Yes
2-Methylphenol	2.0	ug/l	1	-	U	Yes
3&4-Methylphenol	2.0	ug/l	1	-	U	Yes
2-Nitrophenol	5.0	ug/l	1	-	U	Yes
4-Nitrophenol	10	ug/l	1	-	U	Yes
Pentachlorophenol	5.0	ug/l	1	-	U	Yes
Phenol	2.0	ug/l	1	-	U	Yes
2,3,4,6-Tetrachlorophenol	5.0	ug/l	1	-	U	Yes
2,4,5-Trichlorophenol	5.0	ug/l	1	-	U	Yes
2,4,6-Trichlorophenol	5.0	ug/l	1	-	U	Yes
Acenaphthene	1.0	ug/l	1	-	U	Yes
Acenaphthylene	1.0	ug/l	1	-	U	Yes
Acetophenone	2.0	ug/l	1	-	U	Yes
Anthracene	1.0	ug/l	1	-	U	Yes
Atrazine	2.0	ug/l	1	-	U	Yes
Benzaldehyde	5.0	ug/l	1	-	U	Yes
Benzo(a)anthracene	1.0	ug/l	1	-	U	Yes
Benzo(a)pyrene	1.0	ug/l	1	-	U	Yes
Benzo(b)fluoranthene	1.0	ug/l	1	-	U	Yes
Benzo(g,h,i)perylene	1.0	ug/l	1	-	U	Yes
Benzo(k)fluoranthene	1.0	ug/l	1	-	U	Yes
4-Bromophenyl phenyl ether	2.0	ug/l	1	-	U	Yes
Butyl benzyl phthalate	2.0	ug/l	1	-	U	Yes
1,1'-Biphenyl	1.0	ug/l	1	-	U	Yes
2-Chloronaphthalene	2.0	ug/l	1	-	U	Yes
4-Chloroaniline	5.0	ug/l	1	-	U	Yes
Carbazole	1.0	ug/l	1	-	U	Yes
Caprolactam	2.0	ug/l	1	-	U	Yes
Chrysene	1.0	ug/l	1	-	U	Yes
bis(2-Chloroethoxy)methane	2.0	ug/l	1	-	U	Yes
bis(2-Chloroethyl)ether	2.0	ug/l	1	-	U	Yes
bis(2-Chloroisopropyl)ether	2.0	ug/l	1	-	U	Yes

4-Chlorophenyl phenyl ether	2.0	ug/l	1	-	U	Yes
2,4-Dinitrotoluene	1.0	ug/l	1	-	U	Yes
2,6-Dinitrotoluene	1.0	ug/l	1	-	U	Yes
3,3'-Dichlorobenzidine	2.0	ug/l	1	-	U	Yes
1,4-Dioxane	1530	ug/l	50	-	-	Yes
Dibenzo(a,h)anthracene	1.0	ug/l	1	-	U	Yes
Dibenzofuran	5.0	ug/l	1	-	U	Yes
Di-n-butyl phthalate	2.0	ug/l	1	-	U	Yes
Di-n-octyl phthalate	2.0	ug/l	1	-	U	Yes
Diethyl phthalate	2.0	ug/l	1	-	U	Yes
Dimethyl phthalate	2.0	ug/l	1	-	U	Yes
bis(2-Ethylhexyl)phthalate	2.5	ug/l	1	-	U	Yes
Fluoranthene	1.0	ug/l	1	-	U	Yes
Fluorene	1.0	ug/l	1	-	U	Yes
Hexachlorobenzene	1.0	ug/l	1	-	U	Yes
Hexachlorobutadiene	1.0	ug/l	1	-	U	Yes
Hexachlorocyclopentadiene	10	ug/l	1	-	U	Yes
Hexachloroethane	2.0	ug/l	1	-	U	Yes
Indeno(1,2,3-cd)pyrene	1.0	ug/l	1	-	U	Yes
Isophorone	2.0	ug/l	1	-	U	Yes
1-Methylnaphthalene	1.0	ug/l	1	-	U	Yes
2-Methylnaphthalene	1.0	ug/l	1	-	U	Yes
2-Nitroaniline	5.0	ug/l	1	-	U	Yes
3-Nitroaniline	5.0	ug/l	1	-	U	Yes
4-Nitroaniline	5.0	ug/l	1	-	U	Yes
Nitrobenzene	2.0	ug/l	1	-	U	Yes
N-Nitroso-di-n-propylamine	2.0	ug/l	1	-	U	Yes
Nitrosodiphenylamine	5.0	ug/l	1	-	U	Yes
Phenanthrene	1.0	ug/l	1	-	U	Yes
Pyrene	1.0	ug/l	1	-	U	Yes
1,2,4,5-Tetrachlorobenzene	2.0	ug/l	1	-	U	Yes
METHOD: 8270D (SIM)						
Naphthalene	0.846	ug/l	1	-	-	Yes

Sample ID: JC22206-10
Sample location: BMSMC Building 5 Area
Sampling date: 6/14/2016
Matrix: Groundwater

METHOD: 8270D

Analyte Name	Result	Units	Dilution Factor	Lab Flag	Validation	Reportable
2-Chlorophenol	5.0	ug/l	1	-	U	Yes
4-Chloro-3-methyl phenol	5.0	ug/l	1	-	U	Yes
2,4-Dichlorophenol	2.0	ug/l	1	-	U	Yes
2,4-Dimethylphenol	5.0	ug/l	1	-	U	Yes
2,4-Dinitrophenol	10	ug/l	1	-	U	Yes
4,6-Dinitro-o-cresol	5.0	ug/l	1	-	U	Yes
2-Methylphenol	2.0	ug/l	1	-	U	Yes
3&4-Methylphenol	2.0	ug/l	1	-	U	Yes
2-Nitrophenol	5.0	ug/l	1	-	U	Yes
4-Nitrophenol	10	ug/l	1	-	U	Yes
Pentachlorophenol	5.0	ug/l	1	-	U	Yes
Phenol	2.0	ug/l	1	-	U	Yes
2,3,4,6-Tetrachlorophenol	5.0	ug/l	1	-	U	Yes
2,4,5-Trichlorophenol	5.0	ug/l	1	-	U	Yes
2,4,6-Trichlorophenol	5.0	ug/l	1	-	U	Yes
Acenaphthene	1.0	ug/l	1	-	U	Yes
Acenaphthylene	1.0	ug/l	1	-	U	Yes
Acetophenone	2.0	ug/l	1	-	U	Yes
Anthracene	1.0	ug/l	1	-	U	Yes
Atrazine	2.0	ug/l	1	-	U	Yes
Benzaldehyde	5.0	ug/l	1	-	U	Yes
Benzo(a)anthracene	1.0	ug/l	1	-	U	Yes
Benzo(a)pyrene	1.0	ug/l	1	-	U	Yes
Benzo(b)fluoranthene	1.0	ug/l	1	-	U	Yes
Benzo(g,h,i)perylene	1.0	ug/l	1	-	U	Yes
Benzo(k)fluoranthene	1.0	ug/l	1	-	U	Yes
4-Bromophenyl phenyl ether	2.0	ug/l	1	-	U	Yes
Butyl benzyl phthalate	2.0	ug/l	1	-	U	Yes
1,1'-Biphenyl	1.0	ug/l	1	-	U	Yes
2-Chloronaphthalene	2.0	ug/l	1	-	U	Yes
4-Chloroaniline	5.0	ug/l	1	-	U	Yes
Carbazole	1.0	ug/l	1	-	U	Yes
Caprolactam	2.0	ug/l	1	-	U	Yes
Chrysene	1.0	ug/l	1	-	U	Yes
bis(2-Chloroethoxy)methane	2.0	ug/l	1	-	U	Yes
bis(2-Chloroethyl)ether	2.0	ug/l	1	-	U	Yes
bis(2-Chloroisopropyl)ether	2.0	ug/l	1	-	U	Yes
4-Chlorophenyl phenyl ether	2.0	ug/l	1	-	U	Yes

2,4-Dinitrotoluene	1.0	ug/l	1	-	U	Yes
2,6-Dinitrotoluene	1.0	ug/l	1	-	U	Yes
3,3'-Dichlorobenzidine	2.0	ug/l	1	-	U	Yes
1,4-Dioxane	2700	ug/l	100	-	-	Yes
Dibenzo(a,h)anthracene	1.0	ug/l	1	-	U	Yes
Dibenzofuran	5.0	ug/l	1	-	U	Yes
Di-n-butyl phthalate	2.0	ug/l	1	-	U	Yes
Di-n-octyl phthalate	2.0	ug/l	1	-	U	Yes
Diethyl phthalate	2.0	ug/l	1	-	U	Yes
Dimethyl phthalate	2.0	ug/l	1	-	U	Yes
bis(2-Ethylhexyl)phthalate	2.5	ug/l	1	-	-	Yes
Fluoranthene	1.0	ug/l	1	-	U	Yes
Fluorene	1.0	ug/l	1	-	U	Yes
Hexachlorobenzene	1.0	ug/l	1	-	U	Yes
Hexachlorobutadiene	1.0	ug/l	1	-	U	Yes
Hexachlorocyclopentadiene	10	ug/l	1	-	U	Yes
Hexachloroethane	2.0	ug/l	1	-	U	Yes
Indeno(1,2,3-cd)pyrene	1.0	ug/l	1	-	U	Yes
Isophorone	2.0	ug/l	1	-	U	Yes
1-Methylnaphthalene	1.0	ug/l	1	-	U	Yes
2-Methylnaphthalene	1.0	ug/l	1	-	U	Yes
2-Nitroaniline	5.0	ug/l	1	-	U	Yes
3-Nitroaniline	5.0	ug/l	1	-	U	Yes
4-Nitroaniline	5.0	ug/l	1	-	U	Yes
Nitrobenzene	2.0	ug/l	1	-	U	Yes
N-Nitroso-di-n-propylamine	2.0	ug/l	1	-	U	Yes
Nitrosodiphenylamine	5.0	ug/l	1	-	U	Yes
Phenanthrene	1.0	ug/l	1	-	U	Yes
Pyrene	1.0	ug/l	1	-	U	Yes
1,2,4,5-Tetrachlorobenzene	2.0	ug/l	1	-	U	Yes
	METHOD: 8270D (SIM)					
Naphthalene	0.10	ug/l	1	-	U	Yes

Sample ID: JC22206-11
Sample location: BMSMC Building 5 Area
Sampling date: 6/14/2016
Matrix: AQ - Equipment Blamk

METHOD: 8270D

Analyte Name	Result	Units	Dilution Factor	Lab Flag	Validation	Reportable
2-Chlorophenol	5.0	ug/l	1	-	U	Yes
4-Chloro-3-methyl phenol	5.0	ug/l	1	-	U	Yes
2,4-Dichlorophenol	2.0	ug/l	1	-	U	Yes
2,4-Dimethylphenol	5.0	ug/l	1	-	U	Yes
2,4-Dinitrophenol	10	ug/l	1	-	U	Yes
4,6-Dinitro-o-cresol	5.0	ug/l	1	-	U	Yes
2-Methylphenol	2.0	ug/l	1	-	U	Yes
3&4-Methylphenol	2.0	ug/l	1	-	U	Yes
2-Nitrophenol	5.0	ug/l	1	-	U	Yes
4-Nitrophenol	10	ug/l	1	-	U	Yes
Pentachlorophenol	5.0	ug/l	1	-	U	Yes
Phenol	2.0	ug/l	1	-	U	Yes
2,3,4,6-Tetrachlorophenol	5.0	ug/l	1	-	U	Yes
2,4,5-Trichlorophenol	5.0	ug/l	1	-	U	Yes
2,4,6-Trichlorophenol	5.0	ug/l	1	-	U	Yes
Acenaphthene	1.0	ug/l	1	-	U	Yes
Acenaphthylene	1.0	ug/l	1	-	U	Yes
Acetophenone	2.0	ug/l	1	-	U	Yes
Anthracene	1.0	ug/l	1	-	U	Yes
Atrazine	2.0	ug/l	1	-	U	Yes
Benzaldehyde	5.0	ug/l	1	-	U	Yes
Benzo(a)anthracene	1.0	ug/l	1	-	U	Yes
Benzo(a)pyrene	1.0	ug/l	1	-	U	Yes
Benzo(b)fluoranthene	1.0	ug/l	1	-	U	Yes
Benzo(g,h,i)perylene	1.0	ug/l	1	-	U	Yes
Benzo(k)fluoranthene	1.0	ug/l	1	-	U	Yes
4-Bromophenyl phenyl ether	2.0	ug/l	1	-	U	Yes
Butyl benzyl phthalate	2.0	ug/l	1	-	U	Yes
1,1'-Biphenyl	1.0	ug/l	1	-	U	Yes
2-Chloronaphthalene	2.0	ug/l	1	-	U	Yes
4-Chloroaniline	5.0	ug/l	1	-	U	Yes
Carbazole	1.0	ug/l	1	-	U	Yes
Caprolactam	0.81	ug/l	1	J	UJ	Yes
Chrysene	1.0	ug/l	1	-	U	Yes
bis(2-Chloroethoxy)methane	2.0	ug/l	1	-	U	Yes
bis(2-Chloroethyl)ether	2.0	ug/l	1	-	U	Yes
bis(2-Chloroisopropyl)ether	2.0	ug/l	1	-	U	Yes

4-Chlorophenyl phenyl ether	2.0	ug/l	1	-	U	Yes
2,4-Dinitrotoluene	1.0	ug/l	1	-	U	Yes
2,6-Dinitrotoluene	1.0	ug/l	1	-	U	Yes
3,3'-Dichlorobenzidine	2.0	ug/l	1	-	U	Yes
Dibenzo(a,h)anthracene	1.0	ug/l	1	-	U	Yes
Dibenzofuran	5.0	ug/l	1	-	U	Yes
Di-n-butyl phthalate	2.0	ug/l	1	-	U	Yes
Di-n-octyl phthalate	2.0	ug/l	1	-	U	Yes
Diethyl phthalate	2.0	ug/l	1	-	U	Yes
Dimethyl phthalate	2.0	ug/l	1	-	U	Yes
bis(2-Ethylhexyl)phthalate	2.1	ug/l	1	-	-	Yes
Fluoranthene	1.0	ug/l	1	-	U	Yes
Fluorene	1.0	ug/l	1	-	U	Yes
Hexachlorobenzene	1.0	ug/l	1	-	U	Yes
Hexachlorobutadiene	1.0	ug/l	1	-	U	Yes
Hexachlorocyclopentadiene	10	ug/l	1	-	U	Yes
Hexachloroethane	2.0	ug/l	1	-	U	Yes
Indeno(1,2,3-cd)pyrene	1.0	ug/l	1	-	U	Yes
Isophorone	2.0	ug/l	1	-	U	Yes
1-Methylnaphthalene	1.0	ug/l	1	-	U	Yes
2-Methylnaphthalene	1.0	ug/l	1	-	U	Yes
2-Nitroaniline	5.0	ug/l	1	-	U	Yes
3-Nitroaniline	5.0	ug/l	1	-	U	Yes
4-Nitroaniline	5.0	ug/l	1	-	U	Yes
Nitrobenzene	2.0	ug/l	1	-	U	Yes
N-Nitroso-di-n-propylamine	2.0	ug/l	1	-	U	Yes
Nitrosodiphenylamine	5.0	ug/l	1	-	U	Yes
Phenanthrene	1.0	ug/l	1	-	U	Yes
Pyrene	1.0	ug/l	1	-	U	Yes
1,2,4,5-Tetrachlorobenzene	2.0	ug/l	1	-	U	Yes
METHOD: 8270D (SIM)						
Naphthalene	0.10	ug/l	1	-	U	Yes
1,4-Dioxane	0.10	ug/l	1	-	U	Yes

Sample ID: JC22206-1MS
Sample location: BMSMC Building 5 Area
Sampling date: 6/10/2016
Matrix: Groundwater

METHOD: 8270D

Analyte Name	Result	Units	Dilution Factor	Lab Flag	Validation	Reportable
2-Chlorophenol	34.8	ug/l	1	-	-	Yes
4-Chloro-3-methyl phenol	35.7	ug/l	1	-	-	Yes
2,4-Dichlorophenol	37.3	ug/l	1	-	-	Yes
2,4-Dimethylphenol	31.8	ug/l	1	-	-	Yes
2,4-Dinitrophenol	82.8	ug/l	1	-	-	Yes
4,6-Dinitro-o-cresol	37.2	ug/l	1	-	-	Yes
2-Methylphenol	31.5	ug/l	1	-	-	Yes
3&4-Methylphenol	29.6	ug/l	1	-	-	Yes
2-Nitrophenol	39.4	ug/l	1	-	-	Yes
4-Nitrophenol	30.6	ug/l	1	-	-	Yes
Pentachlorophenol	45.8	ug/l	1	-	-	Yes
Phenol	19.3	ug/l	1	-	-	Yes
2,3,4,6-Tetrachlorophenol	45.3	ug/l	1	-	-	Yes
2,4,5-Trichlorophenol	39.4	ug/l	1	-	-	Yes
2,4,6-Trichlorophenol	42.6	ug/l	1	-	-	Yes
Acenaphthene	36.5	ug/l	1	-	-	Yes
Acenaphthylene	36.2	ug/l	1	-	-	Yes
Acetophenone	36.6	ug/l	1	-	-	Yes
Anthracene	37.9	ug/l	1	-	-	Yes
Atrazine	62.3	ug/l	1	-	-	Yes
Benzaldehyde	40.8	ug/l	1	-	-	Yes
Benzo(a)anthracene	40.3	ug/l	1	-	-	Yes
Benzo(a)pyrene	42.6	ug/l	1	-	-	Yes
Benzo(b)fluoranthene	40.6	ug/l	1	-	-	Yes
Benzo(g,h,i)perylene	39.7	ug/l	1	-	-	Yes
Benzo(k)fluoranthene	40.1	ug/l	1	-	-	Yes
4-Bromophenyl phenyl ether	41.9	ug/l	1	-	-	Yes
Butyl benzyl phthalate	43.6	ug/l	1	-	-	Yes
1,1'-Biphenyl	38.9	ug/l	1	-	-	Yes
2-Chloronaphthalene	35.3	ug/l	1	-	-	Yes
4-Chloroaniline	27.6	ug/l	1	-	-	Yes
Carbazole	40.1	ug/l	1	-	-	Yes
Caprolactam	10.9	ug/l	1	-	-	Yes
Chrysene	37.1	ug/l	1	-	-	Yes
bis(2-Chloroethoxy)methane	30.4	ug/l	1	-	-	Yes
bis(2-Chloroethyl)ether	32.8	ug/l	1	-	-	Yes
bis(2-Chloroisopropyl)ether	32.4	ug/l	1	-	-	Yes
4-Chlorophenyl phenyl ether	39.2	ug/l	1	-	-	Yes

2,4-Dinitrotoluene	45.7	ug/l	1	-	-	Yes
2,6-Dinitrotoluene	45.2	ug/l	1	-	-	Yes
3,3'-Dichlorobenzidine	74.0	ug/l	1	-	-	Yes
1,4-Dioxane	28.6	ug/l	1	-	-	Yes
Dibenzo(a,h)anthracene	40.9	ug/l	1	-	-	Yes
Dibenzofuran	37.0	ug/l	1	-	-	Yes
Di-n-butyl phthalate	43.0	ug/l	1	-	-	Yes
Di-n-octyl phthalate	40.2	ug/l	1	-	-	Yes
Diethyl phthalate	39.0	ug/l	1	-	-	Yes
Dimethyl phthalate	38.2	ug/l	1	-	-	Yes
bis(2-Ethylhexyl)phthalate	39.2	ug/l	1	-	-	Yes
Fluoranthene	41.6	ug/l	1	-	-	Yes
Fluorene	38.8	ug/l	1	-	-	Yes
Hexachlorobenzene	38.7	ug/l	1	-	-	Yes
Hexachlorobutadiene	33.3	ug/l	1	-	-	Yes
Hexachlorocyclopentadiene	73.1	ug/l	1	-	-	Yes
Hexachloroethane	33.5	ug/l	1	-	-	Yes
Indeno(1,2,3-cd)pyrene	42.7	ug/l	1	-	-	Yes
Isophorone	30.3	ug/l	1	-	-	Yes
1-Methylnaphthalene	36.1	ug/l	1	-	-	Yes
2-Methylnaphthalene	33.4	ug/l	1	-	-	Yes
2-Nitroaniline	35.2	ug/l	1	-	-	Yes
3-Nitroaniline	37.2	ug/l	1	-	-	Yes
4-Nitroaniline	44.2	ug/l	1	-	-	Yes
Nitrobenzene	27.8	ug/l	1	-	-	Yes
N-Nitroso-di-n-propylamine	27.0	ug/l	1	-	-	Yes
Nitrosodiphenylamine	39.8	ug/l	1	-	-	Yes
Phenanthrene	37.2	ug/l	1	-	-	Yes
Pyrene	38.8	ug/l	1	-	-	Yes
1,2,4,5-Tetrachlorobenzene	41.8	ug/l	1	-	-	Yes
METHOD: 8270D (SIM)						
Naphthalene	0.906	ug/l	1	-	-	Yes
1,4-Dioxane	12.1	ug/l	1	-	-	Yes

Sample ID: JC22206-1MSD
Sample location: BMSMC Building 5 Area
Sampling date: 6/10/2016
Matrix: Groundwater

METHOD: 8270D

Analyte Name	Result	Units	Dilution Factor	Lab Flag	Validation	Reportable
2-Chlorophenol	34.8	ug/l	1	-	-	Yes
4-Chloro-3-methyl phenol	38.9	ug/l	1	-	-	Yes
2,4-Dichlorophenol	38.8	ug/l	1	-	-	Yes
2,4-Dimethylphenol	35.2	ug/l	1	-	-	Yes
2,4-Dinitrophenol	97.2	ug/l	1	-	-	Yes
4,6-Dinitro-o-cresol	43.3	ug/l	1	-	-	Yes
2-Methylphenol	31.8	ug/l	1	-	-	Yes
3&4-Methylphenol	30.1	ug/l	1	-	-	Yes
2-Nitrophenol	40.3	ug/l	1	-	-	Yes
4-Nitrophenol	32.8	ug/l	1	-	-	Yes
Pentachlorophenol	52.4	ug/l	1	-	-	Yes
Phenol	18.6	ug/l	1	-	-	Yes
2,3,4,6-Tetrachlorophenol	51.2	ug/l	1	-	-	Yes
2,4,5-Trichlorophenol	43.9	ug/l	1	-	-	Yes
2,4,6-Trichlorophenol	46.9	ug/l	1	-	-	Yes
Acenaphthene	40.3	ug/l	1	-	-	Yes
Acenaphthylene	40.3	ug/l	1	-	-	Yes
Acetophenone	37.9	ug/l	1	-	-	Yes
Anthracene	41.9	ug/l	1	-	-	Yes
Atrazine	69.5	ug/l	1	-	-	Yes
Benzaldehyde	40.1	ug/l	1	-	-	Yes
Benzo(a)anthracene	43.9	ug/l	1	-	-	Yes
Benzo(a)pyrene	46.4	ug/l	1	-	-	Yes
Benzo(b)fluoranthene	45.3	ug/l	1	-	-	Yes
Benzo(g,h,i)perylene	40.7	ug/l	1	-	-	Yes
Benzo(k)fluoranthene	43.0	ug/l	1	-	-	Yes
4-Bromophenyl phenyl ether	45.0	ug/l	1	-	-	Yes
Butyl benzyl phthalate	47.0	ug/l	1	-	-	Yes
1,1'-Biphenyl	42.9	ug/l	1	-	-	Yes
2-Chloronaphthalene	39.1	ug/l	1	-	-	Yes
4-Chloroaniline	26.8	ug/l	1	-	-	Yes
Carbazole	44.7	ug/l	1	-	-	Yes
Caprolactam	10.5	ug/l	1	-	-	Yes
Chrysene	40.2	ug/l	1	-	-	Yes
bis(2-Chloroethoxy)methane	31.6	ug/l	1	-	-	Yes
bis(2-Chloroethyl)ether	33.0	ug/l	1	-	-	Yes
bis(2-Chloroisopropyl)ether	32.2	ug/l	1	-	-	Yes

4-Chlorophenyl phenyl ether	43.3	ug/l	1	-	-	Yes
2,4-Dinitrotoluene	51.2	ug/l	1	-	-	Yes
2,6-Dinitrotoluene	49.7	ug/l	1	-	-	Yes
3,3'-Dichlorobenzidine	80.8	ug/l	1	-	-	Yes
1,4-Dioxane	25.4	ug/l	1	-	-	Yes
Dibenzo(a,h)anthracene	43.0	ug/l	1	-	-	Yes
Dibenzofuran	41.3	ug/l	1	-	-	Yes
Di-n-butyl phthalate	47.8	ug/l	1	-	-	Yes
Di-n-octyl phthalate	44.0	ug/l	1	-	-	Yes
Diethyl phthalate	43.8	ug/l	1	-	-	Yes
Dimethyl phthalate	42.1	ug/l	1	-	-	Yes
bis(2-Ethylhexyl)phthalate	41.7	ug/l	1	-	-	Yes
Fluoranthene	46.2	ug/l	1	-	-	Yes
Fluorene	42.9	ug/l	1	-	-	Yes
Hexachlorobenzene	42.3	ug/l	1	-	-	Yes
Hexachlorobutadiene	33.1	ug/l	1	-	-	Yes
Hexachlorocyclopentadiene	78.5	ug/l	1	-	-	Yes
Hexachloroethane	31.8	ug/l	1	-	-	Yes
Indeno(1,2,3-cd)pyrene	44.5	ug/l	1	-	-	Yes
Isophorone	32.4	ug/l	1	-	-	Yes
1-Methylnaphthalene	38.1	ug/l	1	-	-	Yes
2-Methylnaphthalene	35.0	ug/l	1	-	-	Yes
2-Nitroaniline	39.3	ug/l	1	-	-	Yes
3-Nitroaniline	38.9	ug/l	1	-	-	Yes
4-Nitroaniline	48.8	ug/l	1	-	-	Yes
Nitrobenzene	28.6	ug/l	1	-	-	Yes
N-Nitroso-di-n-propylamine	27.8	ug/l	1	-	-	Yes
Nitrosodiphenylamine	43.9	ug/l	1	-	-	Yes
Phenanthrene	41.0	ug/l	1	-	-	Yes
Pyrene	42.6	ug/l	1	-	-	Yes
1,2,4,5-Tetrachlorobenzene	44.6	ug/l	1	-	-	Yes
METHOD: 8270D (SIM)						
Naphthalene	0.944	ug/l	1	-	-	Yes
1,4-Dioxane	13.2	ug/l	1	-	-	Yes

Sample ID: JC22206-9MS
Sample location: BMSMC Building 5 Area
Sampling date: 6/14/2016
Matrix: Groundwater

METHOD: 8270D

Analyte Name	Result	Units	Dilution Factor	Lab Flag	Validation	Reportable
2-Chlorophenol	38.7	ug/l	1	-	-	Yes
4-Chloro-3-methyl phenol	39.7	ug/l	1	-	-	Yes
2,4-Dichlorophenol	40.4	ug/l	1	-	-	Yes
2,4-Dimethylphenol	37.1	ug/l	1	-	-	Yes
2,4-Dinitrophenol	117	ug/l	1	-	-	Yes
4,6-Dinitro-o-cresol	48.2	ug/l	1	-	-	Yes
2-Methylphenol	35.0	ug/l	1	-	-	Yes
3&4-Methylphenol	34.2	ug/l	1	-	-	Yes
2-Nitrophenol	43.6	ug/l	1	-	-	Yes
4-Nitrophenol	32.3	ug/l	1	-	-	Yes
Pentachlorophenol	51.4	ug/l	1	-	-	Yes
Phenol	21.7	ug/l	1	-	-	Yes
2,3,4,6-Tetrachlorophenol	51.7	ug/l	1	-	-	Yes
2,4,5-Trichlorophenol	46.1	ug/l	1	-	-	Yes
2,4,6-Trichlorophenol	48.6	ug/l	1	-	-	Yes
Acenaphthene	41.0	ug/l	1	-	-	Yes
Acenaphthylene	41.2	ug/l	1	-	-	Yes
Acetophenone	43.0	ug/l	1	-	-	Yes
Anthracene	42.3	ug/l	1	-	-	Yes
Atrazine	67.6	ug/l	1	-	-	Yes
Benzaldehyde	43.4	ug/l	1	-	-	Yes
Benzo(a)anthracene	44.6	ug/l	1	-	-	Yes
Benzo(a)pyrene	45.7	ug/l	1	-	-	Yes
Benzo(b)fluoranthene	44.5	ug/l	1	-	-	Yes
Benzo(g,h,i)perylene	40.2	ug/l	1	-	-	Yes
Benzo(k)fluoranthene	43.0	ug/l	1	-	-	Yes
4-Bromophenyl phenyl ether	45.9	ug/l	1	-	-	Yes
Butyl benzyl phthalate	50.0	ug/l	1	-	-	Yes
1,1'-Biphenyl	44.5	ug/l	1	-	-	Yes
2-Chloronaphthalene	40.7	ug/l	1	-	-	Yes
4-Chloroaniline	18.2	ug/l	1	-	-	Yes
Carbazole	45.5	ug/l	1	-	-	Yes
Caprolactam	14.9	ug/l	1	-	-	Yes
Chrysene	40.5	ug/l	1	-	-	Yes
bis(2-Chloroethoxy)methane	37.2	ug/l	1	-	-	Yes
bis(2-Chloroethyl)ether	40.6	ug/l	1	-	-	Yes

bis(2-Chloroisopropyl)ether	36.6	ug/l	1	-	-	Yes
4-Chlorophenyl phenyl ether	43.0	ug/l	1	-	-	Yes
2,4-Dinitrotoluene	52.4	ug/l	1	-	-	Yes
2,6-Dinitrotoluene	52.7	ug/l	1	-	-	Yes
3,3'-Dichlorobenzidine	53.8	ug/l	1	-	-	Yes
1,4-Dioxane	1090	ug/l	1	-	-	Yes
Dibenzo(a,h)anthracene	42.6	ug/l	1	-	-	Yes
Dibenzofuran	42.5	ug/l	1	-	-	Yes
Di-n-butyl phthalate	49.6	ug/l	1	-	-	Yes
Di-n-octyl phthalate	45.9	ug/l	1	-	-	Yes
Diethyl phthalate	45.1	ug/l	1	-	-	Yes
Dimethyl phthalate	43.6	ug/l	1	-	-	Yes
bis(2-Ethylhexyl)phthalate	43.9	ug/l	1	-	-	Yes
Fluoranthene	46.4	ug/l	1	-	-	Yes
Fluorene	42.6	ug/l	1	-	-	Yes
Hexachlorobenzene	43.0	ug/l	1	-	-	Yes
Hexachlorobutadiene	32.9	ug/l	1	-	-	Yes
Hexachlorocyclopentadiene	84.0	ug/l	1	-	-	Yes
Hexachloroethane	36.0	ug/l	1	-	-	Yes
Indeno(1,2,3-cd)pyrene	43.0	ug/l	1	-	-	Yes
Isophorone	38.3	ug/l	1	-	-	Yes
1-Methylnaphthalene	38.9	ug/l	1	-	-	Yes
2-Methylnaphthalene	36.4	ug/l	1	-	-	Yes
2-Nitroaniline	50.4	ug/l	1	-	-	Yes
3-Nitroaniline	28.5	ug/l	1	-	-	Yes
4-Nitroaniline	49.8	ug/l	1	-	-	Yes
Nitrobenzene	35.9	ug/l	1	-	-	Yes
N-Nitroso-di-n-propylamine	38.1	ug/l	1	-	-	Yes
Nitrosodiphenylamine	44.8	ug/l	1	-	-	Yes
Phenanthrene	41.1	ug/l	1	-	-	Yes
Pyrene	43.5	ug/l	1	-	-	Yes
1,2,4,5-Tetrachlorobenzene	45.3	ug/l	1	-	-	Yes
METHOD: 8270D (SIM)						
Naphthalene	0.758	ug/l	1	-	-	Yes
1,4-Dioxane	475	ug/l	1	-	-	Yes

Sample ID: JC22206-9MSD
Sample location: BMSMC Building 5 Area
Sampling date: 6/14/2016
Matrix: Groundwater

METHOD: 8270D

Analyte Name	Result	Units	Dilution Factor	Lab Flag	Validation	Reportable
2-Chlorophenol	31.3	ug/l	1	-	-	Yes
4-Chloro-3-methyl phenol	31.7	ug/l	1	-	-	Yes
2,4-Dichlorophenol	33.3	ug/l	1	-	-	Yes
2,4-Dimethylphenol	30.6	ug/l	1	-	-	Yes
2,4-Dinitrophenol	87.0	ug/l	1	-	-	Yes
4,6-Dinitro-o-cresol	36.9	ug/l	1	-	-	Yes
2-Methylphenol	29.4	ug/l	1	-	-	Yes
3&4-Methylphenol	28.7	ug/l	1	-	-	Yes
2-Nitrophenol	35.2	ug/l	1	-	-	Yes
4-Nitrophenol	25.1	ug/l	1	-	-	Yes
Pentachlorophenol	37.9	ug/l	1	-	-	Yes
Phenol	18.3	ug/l	1	-	-	Yes
2,3,4,6-Tetrachlorophenol	39.9	ug/l	1	-	-	Yes
2,4,5-Trichlorophenol	35.4	ug/l	1	-	-	Yes
2,4,6-Trichlorophenol	38.0	ug/l	1	-	-	Yes
Acenaphthene	32.0	ug/l	1	-	-	Yes
Acenaphthylene	32.0	ug/l	1	-	-	Yes
Acetophenone	34.8	ug/l	1	-	-	Yes
Anthracene	32.3	ug/l	1	-	-	Yes
Atrazine	52.6	ug/l	1	-	-	Yes
Benzaldehyde	38.5	ug/l	1	-	-	Yes
Benzo(a)anthracene	34.1	ug/l	1	-	-	Yes
Benzo(a)pyrene	34.7	ug/l	1	-	-	Yes
Benzo(b)fluoranthene	34.0	ug/l	1	-	-	Yes
Benzo(g,h,i)perylene	30.1	ug/l	1	-	-	Yes
Benzo(k)fluoranthene	33.4	ug/l	1	-	-	Yes
4-Bromophenyl phenyl ether	35.5	ug/l	1	-	-	Yes
Butyl benzyl phthalate	37.8	ug/l	1	-	-	Yes
1,1'-Biphenyl	35.4	ug/l	1	-	-	Yes
2-Chloronaphthalene	32.3	ug/l	1	-	-	Yes
4-Chloroaniline	22.3	ug/l	1	-	-	Yes
Carbazole	34.8	ug/l	1	-	-	Yes
Caprolactam	11.3	ug/l	1	-	-	Yes
Chrysene	31.5	ug/l	1	-	-	Yes
bis(2-Chloroethoxy)methane	30.6	ug/l	1	-	-	Yes
bis(2-Chloroethyl)ether	32.7	ug/l	1	-	-	Yes
bis(2-Chloroisopropyl)ether	29.2	ug/l	1	-	-	Yes

4-Chlorophenyl phenyl ether	34.0	ug/l	1	-	-	Yes
2,4-Dinitrotoluene	39.2	ug/l	1	-	-	Yes
2,6-Dinitrotoluene	40.1	ug/l	1	-	-	Yes
3,3'-Dichlorobenzidine	54.2	ug/l	1	-	-	Yes
1,4-Dioxane	1020	ug/l	1	-	-	Yes
Dibenzo(a,h)anthracene	31.7	ug/l	1	-	-	Yes
Dibenzofuran	33.0	ug/l	1	-	-	Yes
Di-n-butyl phthalate	37.6	ug/l	1	-	-	Yes
Di-n-octyl phthalate	34.5	ug/l	1	-	-	Yes
Diethyl phthalate	34.5	ug/l	1	-	-	Yes
Dimethyl phthalate	33.6	ug/l	1	-	-	Yes
bis(2-Ethylhexyl)phthalate	33.4	ug/l	1	-	-	Yes
Fluoranthene	35.6	ug/l	1	-	-	Yes
Fluorene	33.2	ug/l	1	-	-	Yes
Hexachlorobenzene	33.2	ug/l	1	-	-	Yes
Hexachlorobutadiene	28.0	ug/l	1	-	-	Yes
Hexachlorocyclopentadiene	64.1	ug/l	1	-	-	Yes
Hexachloroethane	29.2	ug/l	1	-	-	Yes
Indeno(1,2,3-cd)pyrene	32.1	ug/l	1	-	-	Yes
Isophorone	31.4	ug/l	1	-	-	Yes
1-Methylnaphthalene	32.1	ug/l	1	-	-	Yes
2-Methylnaphthalene	30.0	ug/l	1	-	-	Yes
2-Nitroaniline	39.0	ug/l	1	-	-	Yes
3-Nitroaniline	30.6	ug/l	1	-	-	Yes
4-Nitroaniline	37.6	ug/l	1	-	-	Yes
Nitrobenzene	29.1	ug/l	1	-	-	Yes
N-Nitroso-di-n-propylamine	30.7	ug/l	1	-	-	Yes
Nitrosodiphenylamine	34.5	ug/l	1	-	-	Yes
Phenanthrene	32.1	ug/l	1	-	-	Yes
Pyrene	33.6	ug/l	1	-	-	Yes
1,2,4,5-Tetrachlorobenzene	36.4	ug/l	1	-	-	Yes
METHOD: 8270D (SIM)						
Naphthalene	0.826	ug/l	1	-	-	Yes
1,4-Dioxane	509	ug/l	1	-	-	Yes

DATA REVIEW WORKSHEETS

Project Number:_JC22206_____
Date:____ June_10-14,_2016_____
Shipping Date:__June_14,_2016_____
EPA Region:_____2_____

REVIEW OF SEMIVOLATILE ORGANIC PACKAGE

The following guidelines for evaluating volatile organics were created to delineate required validation actions. This document will assist the reviewer in using professional judgment to make more informed decision and in better serving the needs of the data users. The sample results were assessed according to USEPA data validation guidance documents in the following order of precedence: EPA Hazardous Waste Support Section, SOP HW-35A, July 2015 –Revision 0. *Semivolatile Data Validation*. The QC criteria and data validation actions listed on the data review worksheets are from the primary guidance document, unless otherwise noted.

The hardcopied (laboratory name) _Accutest_____ data package received has been reviewed and the quality control and performance data summarized. The data review for SVOCs included:

Lab. Project/SDG No.: ____JC22206_____ Sample matrix: ____Groundwater___
No. of Samples: ___15_Full_scan/15_SIM_____

Trip blank No.: _____-_____
Field blank No.: _____-_____
Equipment blank No.:_____ JC22206-11_____
Field duplicate No.:_____ JC22206-4/ JC22206-5_____

___X___ Data Completeness
___X___ Holding Times
___X___ GC/MS Tuning
___X___ Internal Standard Performance
___X___ Blanks
___X___ Surrogate Recoveries
___X___ Matrix Spike/Matrix Spike Duplicate
___X___ Laboratory Control Spikes
___X___ Field Duplicates
___X___ Calibrations
___X___ Compound Identifications
___X___ Compound Quantitation
___X___ Quantitation Limits

Overall Comments:_ABN_TCL_list_by_method_SW846-8270D;_Naphthalene_and_1,4-Dioxane_
_analyzed_by_method_SW846-8270D_(SIM)_____
_____

Definition of Qualifiers:

J- Estimated results
U- Compound not detected
R- Rejected data
UJ- Estimated nondetect

Reviewer:_____
Date:___July_19,_2016_____

DATA REVIEW WORKSHEETS

DATA COMPLETENESS

MISSING INFORMATION	DATE LAB. CONTACTED	DATE RECEIVED

All criteria were met __X__
Criteria were not met
and/or see below _____

HOLDING TIMES

The objective of this parameter is to ascertain the validity of the results based on the holding time of the sample from time of collection to the time of analysis.

Complete table for all samples and note the analysis and/or preservation not within criteria

SAMPLE ID	DATE SAMPLED	DATE EXTRACTED/ANALYZED	pH	ACTION
All samples extracted and analyzed within method recommended holding time except for the cases described in this document. Sample re-extracted outside holding time to confirm presence of analyte found in corresponding method blank. Sample preservation was acceptable.				
JC22206-4	6/13/16	6/30/16		Results for 1,4-dioxane qualified as estimated (J) in affected samples
JC22206-5	6/13/16	6/30/16		

Cooler temperature (Criteria: 4 ± 2 °C): _____5.2°C_____

Actions

Results will be qualified based on the criteria of the following Table:

Table 1. Holding Time Actions for Semivolatile Analyses

Matrix	Preserved	Criteria	Action	
			Detected Associated Compounds	Non-Detected Associated Compounds
Aqueous	No	≤ 7 days (for extraction) ≤ 40 days (for analysis)	Use professional judgment	
	No	> 7 days (for extraction) > 40 days (for analysis)	J	Use professional judgment
	Yes	≤ 7 days (for extraction) ≤ 40 days (for analysis)	No qualification	
	Yes	> 7 days (for extraction) > 40 days (for analysis)	J	UJ
	Yes/No	Grossly Exceeded	J	UJ or R
Non-Aqueous	No	≤ 14 days (for extraction) ≤ 40 days (for analysis)	Use professional judgment	
	No	> 14 days (for extraction) > 40 days (for analysis)	J	Use professional judgment
	Yes	≤ 14 days (for extraction) ≤ 40 days (for analysis)	No qualification	
	Yes	> 14 days (for extraction) > 40 days (for analysis)	J	UJ
	Yes/No	Grossly Exceeded	J	UJ or R

All criteria were met _X__
Criteria were not met see below ____

GC/MS TUNING

The assessment of the tuning results is to determine if the sample instrumentation is within the standard tuning QC limits

_X__ The DFTPP performance results were reviewed and found to be within the specified criteria.

_X__ DFTPP tuning was performed for every 12 hours of sample analysis.

If no, use professional judgment to determine whether the associated data should be accepted, qualified or rejected.

Notes: These requirements do not apply when samples are analyzed by the Selected Ion Monitoring (SIM) technique.

All mass spectrometer conditions must be identical to those used during the sample analysis. Background subtraction actions resulting in spectral distortion are unacceptable

Notes: No data should be qualified based of DFTPP failure.

The requirement to analyze the instrument performance check solution is optional when analysis of PAHs/pentachlorophenol is to be performed by the SIM technique.

List the samples affected:

Actions:

1. If sample are analyzed without a preceding valid instrument performance check or are analyzed 12 hours after the Instrument Performance Check, qualify all data in those samples as unusable (R).
2. If ion abundance criteria are not met, use professional judgment to determine to what extent the data may be utilized.
3. State in the Data Review Narrative, decisions to use analytical data associated with DFTPP instrument performance checks not meeting the contract requirements.
4. Use professional judgment to determine if associated data should be qualified based on the spectrum of the mass calibration compounds.

All criteria were met ___X___
Criteria were not met
and/or see below _____

INITIAL CALIBRATION VERIFICATION

Compliance requirements for satisfactory instrument calibration are established to ensure that the instrument is capable of producing and maintaining acceptable quantitative data.

Date of initial calibration:____06/09/16;_06/22/16_(Scan)____
Instrument ID numbers:_____GCMSF_____
Matrix/Level:_____Aqueous/low_____

Date of initial calibration:____06/14-15/16_(Scan)_____
Instrument ID numbers:_____GCMSZ_____
Matrix/Level:_____Aqueous/low_____

Date of initial calibration:_____06/20/2016_(SIM)_____
Instrument ID numbers:_____GCMS4M_____
Matrix/Level:_____Aqueous/low_____

DATE	LAB FILE ID#	CRITERIA OUT RFs, %RSD, %D, r	COMPOUND	SAMPLES AFFECTED
Initial and initial calibration verification meets the method and guidance validation document performance criteria. Other instrument used for the analysis of QC samples for this job. The QC samples analyzed were not validated				

Actions:

Qualify the initial calibration analytes listed in Table 2 using the following criteria:

Table 3. Initial Calibration Actions for Semivolatile Analysis

Criteria	Action	
	Detect	Non-detect
Initial Calibration not performed at specified frequency and sequence	Use professional judgment R	Use professional judgment R
Initial Calibration not performed at the specified concentrations	J	UJ
RRF < Minimum RRF in Table 2 for target analyte	Use professional judgment J+ or R	R
RRF ≥ Minimum RRF in Table 2 for target analyte	No qualification	No qualification
%RSD > Maximum %RSD in Table 2 for target analyte	J	Use professional judgment
%RSD ≤ Maximum %RSD in Table 2 for target analyte	No qualification	No qualification

Initial Calibration

Table 2. RRF, %RSD, and %D Acceptance Criteria in Initial Calibration and CCV for Semivolatile Analysis

Analyte	Minimum RRF	Maximum %RSD	Opening Maximum %D[1]	Opening Maximum %D[1]
1,4-Dioxane	0.010	40.0	± 40.0	± 50.0
Benzaldehyde	0.100	40.0	± 40.0	± 50.0
Phenol	0.080	20.0	± 20.0	± 25.0
Bis(2-chloroethyl)ether	0.100	20.0	± 20.0	± 25.0
2-Chlorophenol	0.200	20.0	± 20.0	± 25.0
2-Methylphenol	0.010	20.0	± 20.0	± 25.0
3-Methylphenol	0.010	20.0	± 20.0	± 25.0
2,2'-Oxybis-(1-chloropropane)	0.010	20.0	± 25.0	± 50.0
Acetophenone	0.060	20.0	± 20.0	± 25.0
4-Methylphenol	0.010	20.0	± 20.0	± 25.0
N-Nitroso-di-n-propylamine	0.080	20.0	± 25.0	± 25.0
Hexachloroethane	0.100	20.0	± 20.0	± 25.0
Nitrobenzene	0.090	20.0	± 20.0	± 25.0
Isophorone	0.100	20.0	± 20.0	± 25.0
2-Nitrophenol	0.060	20.0	± 20.0	± 25.0
2,4-Dimethylphenol	0.050	20.0	± 25.0	± 50.0
Bis(2-chloroethoxy)methane	0.080	20.0	± 20.0	± 25.0
2,4-Dichlorophenol	0.060	20.0	± 20.0	± 25.0
Naphthalene	0.200	20.0	± 20.0	± 25.0
4-Chloroaniline	0.010	40.0	± 40.0	± 50.0
Hexachlorobutadiene	0.040	20.0	± 20.0	± 25.0
Caprolactam	0.010	40.0	± 30.0	± 50.0
4-Chloro-3-methylphenol	0.040	20.0	± 20.0	± 25.0
2-Methylnaphthalene	0.100	20.0	± 20.0	± 25.0
Hexachlorocyclopentadiene	0.010	40.0	± 40.0	± 50.0
2,4,6-Trichlorophenol	0.090	20.0	± 20.0	± 25.0
2,4,5-Trichlorophenol	0.100	20.0	± 20.0	± 25.0
1,1'-Biphenyl	0.200	20.0	± 20.0	± 25.0

Analyte	Minimum RRF	Maximum %RSD	Opening Maximum %D[1]	Opening Maximum %D[1]
2-Chloronaphthalene	0.300	20.0	± 20.0	± 25.0
2-Nitroaniline	0.060	20.0	± 25.0	± 25.0
Dimethylphthalate	0.300	20.0	± 25.0	± 25.0
2,6-Dinitrotoluene	0.080	20.0	± 20.0	± 25.0
Acenaphthylene	0.400	20.0	± 20.0	± 25.0
3-Nitroaniline	0.010	20.0	± 25.0	± 50.0
Acenaphthene	0.200	20.0	± 20.0	± 25.0
2,4-Dinitrophenol	0.010	40.0	± 50.0	± 50.0
4-Nitrophenol	0.010	40.0	± 40.0	± 50.0
Dibenzofuran	0.300	20.0	± 20.0	± 25.0
2,4-Dinitrotoluene	0.070	20.0	± 20.0	± 25.0
Diethylphthalate	0.300	20.0	± 20.0	± 25.0
1,2,4,5-Tetrachlorobenzene	0.100	20.0	± 20.0	± 25.0
4-Chlorophenyl-phenylether	0.100	20.0	± 20.0	± 25.0
Fluorene	0.200	20.0	± 20.0	± 25.0
4-Nitroaniline	0.010	40.0	± 40.0	± 50.0
4,6-Dinitro-2-methylphenol	0.010	40.0	± 30.0	± 50.0
4-Bromophenyl-phenyl ether	0.070	20.0	± 20.0	± 25.0
N-Nitrosodiphenylamine	0.100	20.0	± 20.0	± 25.0
Hexachlorobenzene	0.050	20.0	± 20.0	± 25.0
Atrazine	0.010	40.0	± 25.0	± 50.0
Pentachlorophenol	0.010	40.0	± 40.0	± 50.0
Phenanthrene	0.200	20.0	± 20.0	± 25.0
Anthracene	0.200	20.0	± 20.0	± 25.0
Carbazole	0.050	20.0	± 20.0	± 25.0
Di-n-butylphthalate	0.500	20.0	± 20.0	± 25.0
Fluoranthene	0.100	20.0	± 20.0	± 25.0
Pyrene	0.400	20.0	± 25.0	± 50.0
Butylbenzylphthalate	0.100	20.0	± 25.0	± 50.0

Analyte	Minimum RRF	Maximum %RSD	Opening Maximum %D[1]	Opening Maximum %D[1]
3,3'-Dichlorobenzidine	0.010	40.0	± 40.0	± 50.0
Benzo(a)anthracene	0.300	20.0	± 20.0	± 25.0
Chrysene	0.200	20.0	± 20.0	± 50.0
Bis(2-ethylhexyl) phthalate	0.200	20.0	± 25.0	± 50.0
Di-n-octylphthalate	0.010	40.0	± 40.0	± 50.0
Benzo(b)fluoranthene	0.010	20.0	± 25.0	± 50.0
Benzo(k)fluoranthene	0.010	20.0	± 25.0	± 50.0
Benzo(a)pyrene	0.010	20.0	± 20.0	± 50.0
Indeno(1,2,3-cd)pyrene	0.010	20.0	± 25.0	± 50.0
Dibenzo(a,h)anthracene	0.010	20.0	± 25.0	± 50.0
Benzo(g,h,i)perylene	0.010	20.0	± 30.0	± 50.0
2,3,4,6-Tetrachlorophenol	0.040	20.0	± 20.0	± 50.0
Naphthalene	0.600	20.0	± 25.0	± 25.0
2-Methylnaphthalene	0.300	20.0	± 20.0	± 25.0
Acenaphthylene	0.900	20.0	± 20.0	± 25.0
Acenaphthene	0.500	20.0	± 20.0	± 25.0
Fluorene	0.700	20.0	± 25.0	± 50.0
Phenanthrene	0.300	20.0	± 25.0	± 50.0
Anthracene	0.400	20.0	± 25.0	± 50.0
Fluoranthene	0.400	20.0	± 25.0	± 50.0
Pyrene	0.500	20.0	± 30.0	± 50.0
Benzo(a)anthracene	0.400	20.0	± 25.0	± 50.0
Chyrsene	0.400	20.0	± 25.0	± 50.0
Benzo(b)fluoranthene	0.100	20.0	± 30.0	± 50.0
Benzo(k)fluoranthene	0.100	20.0	± 30.0	± 50.0
Benzo(a)pyrene	0.100	20.0	± 25.0	± 50.0
Indeno(1,2,3-cd)pyrene	0.100	20.0	± 40.0	± 50.0
Dibenzo(a,h)anthracene	0.010	25.0	± 40.0	± 50.0
Benzo(g,h,i)perylene	0.020	25.0	± 40.0	± 50.0

Pentachlorophenol	0.010	40.0	± 50.0	± 50.0
Deuterated Monitoring Compounds				
Analyte	**Minimum RRF**	**Maximum %RSD**	**Opening Maximum %D[1]**	**Closing Maximum %D**
1,4-Dioxane-d_8	0.010	20.0	± 25.0	± 50.0
Phenol-d_5	0.010	20.0	± 25.0	± 25.0
Bis-(2-chloroethyl)ether-d_8	0.100	20.0	± 20.0	± 25.0
2-Chlorophenol-d_4	0.200	20.0	± 20.0	± 25.0
4-Methylphenol-d_8	0.010	20.0	± 20.0	± 25.0
4-Chloroaniline-d_4	0.010	40.0	± 40.0	± 50.0
Nitrobenzene-d_5	0.050	20.0	± 20.0	± 25.0
2-Nitrophenol-d_4	0.050	20.0	± 20.0	± 25.0
2,4-Dichlorophenol-d_3	0.060	20.0	± 20.0	± 25.0
Dimethylphthalate-d_6	0.300	20.0	± 20.0	± 25.0
Acenaphthylene-d_8	0.400	20.0	± 20.0	± 25.0
4-Nitrophenol-d_4	0.010	40.0	± 40.0	± 50.0
Fluorene-d_{10}	0.100	20.0	± 20.0	± 25.0
4,6-Dinitro-2-methylphenol-d_2	0.010	40.0	± 30.0	± 50.0
Anthracene-d_{10}	0.300	20.0	± 20.0	± 25.0
Pyrene-d_{10}	0.300	20.0	± 25.0	± 50.0
Benzo(a)pyrene-d_{12}	0.010	20.0	± 20.0	± 50.0
Fluoranthene-d_{10} (SIM)	0.400	20.0	± 25.0	± 50.0
2-Methylnaphthalene-d_{10} (SIM)	0.300	20.0	± 20.0	± 25.0

[1] If a closing CCV is acting as an opening CCV, all target analytes must meet the requirements for an opening CCV.

Note: If analysis by SIM technique is requested for PAH/pentachlorophenols, calibration standards analyzed at 0.10, 0.20, 0.40, 0.80, and 1.0 ng/uL for each target compound of interest and the associated DMCs. Pentachlorophenol will require only a four point initial calibration at 0.20, 0.40, 0.80, and 1.0 ng/uL.

All criteria were met _____
Criteria were not met
and/or see below __X__

CONTINUING CALIBRATION VERIFICATION

Compliance requirements for satisfactory instrument calibration are established to ensure that the instrument is capable of producing and maintaining acceptable quantitative data.

Date of initial calibration:_____06/20/16_(SIM)_____
Date of initial calibration verification (ICV):_06/21/16_____
Date of continuing calibration verification (CCV):_06/22/16;_06/27/16_____
_06/28/16;_06/29/16;_06/30/16;_06/30-07/01/16_____
Date of closing CCV:_____06/23/16_____
Instrument ID numbers:_____GCMS4M_____
Matrix/Level:_____Aqueous/low_____ _____

Date of initial calibration:_____06/09-10/16;_06/22/16_(Scan)_____
Date of initial calibration verification (ICV):____06/09-10/16;_06/22/16_____
Date of continuing calibration verification (CCV):__06/23/16;_06/24/16_____
_06/27/16:_06/28/16;_06/29/16_____
Date of closing CCV:_____-_____
Instrument ID numbers:_____GCMSF_____
Matrix/Level:_____Aqueous/low_____

Date of initial calibration:_____06/14-15/16_(Scan)_____
Date of initial calibration verification (ICV):____06/15-16/16_____
Date of continuing calibration verification (CCV):__06/29/16_____
Date of closing CCV:_____-_____
Instrument ID numbers:_____GCMSZ_____
Matrix/Level:_____Aqueous/low_____

DATE	LAB FILE ID#	CRITERIA OUT RFs, %RSD, %D, r	COMPOUND	SAMPLES AFFECTED
GCMSF				
6/23/16	cc6644-25	-20.8	2-nitrophenol	JC22206-1; -2
		-23.2	Hexachlorocyclopentadiene*	
		-22.4	2,4,6-trichlorophenol*	
		-27.6	2,3,4,6-tetrachlorophenol	
6/24/16	cc6544-50	22.9	Acetophenone	JC22206-3
		23.3	N-nitroso-di-n-propylamine	
		28.2	4-chloroaniline*	
		-28.0	Pentachlrophenol*	
6/28/16	cc6645-25	-32.0	Atrazine*	JC22206-10; -11; -7; -9
6/29/16	cc6544-50	26.3	4-chloroaniline*	QC samples
	cc6645-25	-26.0	Atrazine*	
GCMSZ				
6/29/16	cc5571-25	-25.0	1,4-dioxane*	JC22206-8

		21.3	Hexachlorobutadiene	
DATE	LAB FILE ID#	CRITERIA OUT RFs, %RSD, %D, r	COMPOUND	SAMPLES AFFECTED
GCMSZ				
6/29/16	cc5571-25	31.6	Hexachlorocyclopentadiene*	JC22206-8
		-23.2	2-nitroaniline	
		30.9	Pentachlorophenol*	

Note: Initial and continuing calibration verifications meet the method and guidance document required performance criteria except in the cases described in this document. Analytes not meeting the continuing calibration verification method performance criteria and validation guidance document performance criteria qualified as estimated (J) or (UJ) in affected samples.

* Analytes not meeting the continuing calibration verification method performance criteria but were within the validation guidance document performance criteria. No action taken.

No closing calibration verification included in data package. No action taken, professional judgment.

Actions:

Notes: Verify that the CCV is run at the required frequency (an opening and closing CCV must be run within 12-hour period).

All DMCs must meet the RRF values given in Table 2. No qualification of the data is necessary on DMCs RRF and %RSD/%D alone. Use professional judgment to evaluate DMCs and %RSD/%D data in conjunction with DMCs recoveries to determine the need for qualification of the data.

Qualify the initial calibration analytes listed in Table 2 using the following criteria in the CCVs:

Table 4. CCV Actions for Semivolatile Analysis

Criteria for Opening CCV	Criteria for Closing CCV	Action	
		Detect	Non-detect
CCV not performed at required frequency and sequence	CCV not performed at required frequency	Use professional judgment R	Use professional judgment R
CCV not performed at specified concentration	CCV not performed at specified concentration	Use professional judgment	Use professional judgment
RRF < Minimum RRF in Table 2 for target analyte	RRF < Minimum RRF in Table 2 for target analyte	Use professional judgment J or R	R
RRF ≥ Minimum RRF in Table 2 for target analyte	RRF ≥ Minimum RRF in Table 2 for target analyte	No qualification	No qualification
%D outside the Opening Maximum %D limits in Table 2 for target analyte	%D outside the Closing Maximum %D limits in Table 2 for target analyte	J	UJ
%D within the inclusive Opening Maximum %D limits in Table 2 for target analyte	%D within the inclusive Closing Maximum %D limits in Table 2 for target analyte	No qualification	No qualification

All criteria were met ____
Criteria were not met
and/or see below ___X___

BLANK ANALYSIS RESULTS (Sections 1 & 2)

The assessment of the blank analysis results is to determine the existence and magnitude of contamination problems. The criteria for evaluation of blanks apply only to blanks associated with the samples, including trip, equipment, and laboratory blanks. If problems with any blanks exist, all data associated with the case must be carefully evaluated to determine whether or not there is an inherent variability in the data for the case, or if the problem is an isolated occurrence not affecting other data.

List the contamination in the blanks below. High and low levels blanks must be treated separately.

Notes: The concentration of non-target compounds in all blanks must be less than or equal to 10 ug/L.

The concentration of target compounds in all blanks must be less than its CRQL listed in the method.

Samples taken from a drinking water tap do not have and associated field blank.

Laboratory blanks

DATE ANALYZED	LAB ID	LEVEL/ MATRIX	COMPOUND	CONCENTRATION UNITS
No target analytes detected in method blanks except in the cases described in this document.				
06/27/16	OP94859A-MB1	Aq./low	1,4-dioxane	0.564 ug/l
06/28/16	OP94859A-MB1	Aq./low	1,4-dioxane	0.401 ug/l

Field/Equipment/Trip blank

DATE ANALYZED	LAB ID	LEVEL/ MATRIX	COMPOUND	CONCENTRATION UNITS
No target analytes detected in the equipment blank except in the cases described in this document. No field/trip blanks analyzed with this data package.				
06/28/16	JC22206-11	Aqueous/low	bis(2-ethylhexyl)phthalate	2.1 ug/l

Note: No action taken. bis(2-ethylhexyl)phthalate is a common laboratory contaminant and was detected at a concentration below the action level.

All criteria were met ____
Criteria were not met
and/or see below __X__

BLANK ANALYSIS RESULTS (Section 3)

Blank Actions

Qualify samples based on the criteria summarized in Table 5:

Table 5. Blank and TCLP/SPLP LEB Actions for Semivolatile Analysis

Blank Type	Blank Result	Sample Result	Action
Method, TCLP/SPLP LEB, Field	Detect	Non-detect	No qualification
	< CRQL	< CRQL	Report at CRQL and qualify as non-detect (U)
		≥ CRQL	Use professional judgment
	≥ CRQL	< CRQL	Report at CRQL and qualify as non-detect (U)
		≥ CRQL but < Blank Result	Report at sample results and qualify as non-detect (U) or as unusable (R)
		≥ CRQL and ≥ Blank Result	Use professional judgment
	Grossly high	Detect	Report at sample results and qualify as unusable (R)
	TIC > 5.0 ug/L (water) or 0.0050 mg/L (TCLP leachate) or TIC > 170 ug/Kg (soil)	Detect	Use professional judgment

List samples qualified

CONTAMINATION SOURCE/LEVEL	COMPOUND	CONC/UNITS	AL/UNITS	SQL	AFFECTED SAMPLES

All criteria were met _X_
Criteria were not met
and/or see below _____

SURROGATE SPIKE RECOVERIES – DEUTERATED MONITORING COMPOUNDS (DMCs)

Laboratory performance of individual samples is established by evaluation of surrogate spike recoveries – deuterated monitoring compounds. All samples are spiked with surrogate compounds prior to sample analysis. The accuracy of the analysis is measured by the surrogate percent recovery. Since the effects of the sample matrix are frequently outside the control of the laboratory and may present relatively unique problems, the validation of data is frequently subjective and demands analytical experience and professional judgment.

Notes: Recoveries for DMCs in samples and blanks must be within the limits specified in Table 6.

The recovery limits for any of the compounds listed in Table 6 may be expanded at any time during the period of performance if USEPA determines that the limits are too restrictive.

If a DMC is not added in the samples and blanks or the concentrations of DMCs in the samples and blank not the specified, use professional judgment in qualifying the data.

Table 7. DMC Actions for Semivolatile Analysis

Criteria	Action	
	Detect	Non-detect
%R < 10% (excluding DMCs with 10% as a lower acceptance limit)	J-	R
10% ≤ %R (excluding DMCs with 10% as a lower acceptance limit) < Lower Acceptance Limit	J-	UJ
Lower Acceptance limit ≤ %R ≤ Upper Acceptance Limit	No qualification	No qualification
%R > Upper Acceptance Limit	J+	No qualification

List the percent recoveries (%Rs) which do not meet the criteria for DMCs (surrogate) recovery.

Matrix:___Groundwater_____

SAMPLE ID	SURROGATE COMPOUND	ACTION
_DMCs_meet_the_required_criteria._Non-deuterated_surrogates_added_to_the_samples_were_within_laboratory_recovery_limits._____		
_JC22206-8_____	2-Fluorophenol_-_6_%_____	No_action_____
_JC22206-8_____	2-Fluorophenol_-_6_%_____	No_action_____
_JC22206-9_____	None_of_the_surrogates_recovered_due___dilution._____	No_action_____

Note: No action taken, professional judgment. Surrogate recovery outside control limit in sample JC22206-8 due to matrix interference, confirmed by re-extraction. None of the surrogates recovered in sample JC22206-9 due to dilution. No action taken

Table 8. Semivolatile DMCs and the Associated Target Analytes

1,4–Dioxane-d_8 (DMC-1)	**Phenol-d_5 (DMC-2)**	**Bis(2-Chloroethyl) ether-d_8 (DMC-3)**
1,4-Dioxane	Benzaldehyde Phenol	Bis(2-chloroethyl)ether 2,2'-Oxybis(1-chloropropane) Bis(2-chloroethoxy)methane
2-Chlorophenol-d_4 (DMC-4)	**4-Methylphenol-d_8 (DMC-5)**	**4-Chloroaniline-d_4 (DMC-6)**
2-Chlorophenol	2-Methylphenol 3-Methylphenol 4-Methylphenol 2,4-Dimethylphenol	4-Chloroaniline Hexachlorocyclopentadiene Dichlorobenzidine
Nitrobenzene-d_5 (DMC-7)	**2-Nitrophenol-d_4 (DMC-8)**	**2,4-Dichlorophenol-d_3 (DMC-9)**
Acetophenone N-Nitroso-di-n-propylamine Hexachloroethane Nitrobenzene 2,6-Dinitrotoluene 2,4-Dinitrotoluene N-Nitrosodiphenylamine	Isophorone 2-Nitrophenol	2,4-Dichlorophenol Hexachlorobutadiene Hexachlorocyclopentadiene 4-Chloro-3-methylphenol 2,4,6-Trichlorophenol 2,4,5-Trichlorophenol 1,2,4,5-Tetrachlorobenzene *Pentachlorophenol 2,3,4,6-Tetrachlorophenol
Dimethylphthalate-d_6 (DMC-10)	**Acenaphthylene-d_8 (DMC-11)**	**4-Nitrophenol-d_4 (DMC-12)**
Caprolactam 1,1'-Biphenyl Dimethylphthalate Diethylphthalate Di-n-butylphthalate Butylbenzylphthalate Bis(2-ethylhexyl) phthalate Di-n-octylphthalate	*Naphthalene *2-Methylnaphthalene 2-Chloronaphthalene *Acenaphthylene *Acenaphthene	2-Nitroaniline 3-Nitroaniline 2,4-Dinitrophenol 4-Nitrophenol 4-Nitroaniline

Fluorene-d_{10} (DMC-13)	**4,6-Dinitro-2-methylphenol-d_2 (DMC-14)**	**Anthracene-d_{10} (DMC-15)**
Dibenzofuran *Fluorene 4-Chlorophenyl-phenylether 4-Bromophenyl-phenylether Carbazole	4,6-Dinitro-2-methylphenol	Hexachlorobenzene Atrazine *Phenanthrene *Anthracene
Pyrene-d_{10} (DMC-16)	**Benzo(a)pyrene-d_{12} (DMC-17)**	
*Fluoranthene *Pyrene *Benzo(a)anthracene *Chrysene	3,3'-Dichlorobenzidine *Benzo(b)fluoranthene *Benzo(k)fluoranthene *Benzo(a)pyrene *Indeno(1,2,3-cd)pyrene *Dibenzo(a,h)anthracene *Benzo(g,h,i)perylene	

*Included in optional Target Analyte List (TAL) of PAHs and PCP only.

Table 9. Semivolatile SIM DMCs and the Associated Target Analytes

Fluoranthene-d10 (DMC-1)	**2-Methylnaphthalene-d10 (DMC-2)**
Fluoranthene	Naphthalene
Pyrene	2-Methylnaphthalene
Benzo(a)anthracene	Acenaphthylene
Chrysene	Acenaphthene
Benzo(b)fluoranthene	Fluorene
Benzo(k)fluoranthene	Pentachlorophenol
Benzo(a)pyrene	Phenanthrene
Indeno(1,2,3-cd)pyrene	Anthracene
Dibenzo(a,h)anthracene	
Benzo(g,h,i)perylene	

All criteria were met _____
Criteria were not met
and/or see below ___X_____

VII. A MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD)

This data is generated to determine long term precision and accuracy in the analytical method for various matrices. This data alone cannot be used to evaluate the precision and accuracy of individual samples. If any % R in the MS or MSD falls outside the designated range, the reviewer should determine if there are matrix effects, i.e. LCS data are within the QC limits but MS/MSD data are outside QC limit.

1. MS/MSD Recoveries and Precision Criteria

The laboratory should use one MS and a duplicate analysis of an unspiked field sample if target analytes are expected in the sample. If target analytes are not expected, MS/MSD should be analyzed.

NOTES: Data for MS and MSDs will not be present unless requested by the Region. Notify the Contract Laboratory COR if a field or trip blank was used for the MS and MSD.

For a Matrix Spike that does not meet criteria, apply the action to only the field sample used to prepare the Matrix Spike sample. If it is clearly stated in the data validation materials that the samples were taken through incremental sampling or some other method guaranteeing the homogeneity of the sample group, then the entire sample group may be qualified.

List the %Rs, RPD of the compounds which do not meet the criteria.

Sample ID:__JC22206-1_____	Matrix/Level:__Groundwater_____
Sample ID:__JC22206-9_____	Matrix/Level:__Groundwater_____
Sample ID:__JC21973-1_(SIM)_____	Matrix/Level:__Groundwater_____
Sample ID:__JC21973-1_(SIM)_____	Matrix/Level:__Groundwater_____

Note: MS/MSD % recoveries and RPD within laboratory control limits except for the cases described in this document.

MS/MSD % recovery for 1,4-dioxane in sample JC22206-9MS/MSD outside laboratory control limits. No action taken, analyte concentration high compared to amount spiked.

MS/MSD % recovery for 1,4-dioxane in sample JC22206-1MS/MSD (SIM) and in sample JC22206-9MS/MSD (SIM) outside laboratory control limits. No action taken, analyte concentration high compared to amount spiked.

Several analyes not meeting the RPD laboratory control limits but were within generally accepted and validation guidance document performance criteria. No qualification made on the basis of RPD.

* QC limits are laboratory in-house performance criteria, LL = lower limit, UL = upper limit.
* If QC limits are not available, use limits of 70 – 130 %.

Actions:

QUALITY	%R < LL	%R > UL
Positive results	J	J
Nondetects results	R	Accept

MS/MSD criteria apply only to the unspiked sample, its dilutions, and the associated MS/MSD samples:

If the % R for the affected compounds were < LL (or 70 %), qualify positive results (J) and nondetects (UJ).
If the % R for the affected compounds were > UL (or 130 %), only qualify positive results (J).
If 25 % or more of all MS/MSD %R were < LL (or 70 %) or if two or more MS/MSD %Rs were < 10%, qualify all positive results (J) and reject nondetects (R).

A separate worksheet should be used for each MS/MSD pair.

All criteria were met __X__
Criteria were not met
and/or see below ____

INTERNAL STANDARD PERFORMANCE

The assessment of the internal standard (IS) parameter is used to assist the data reviewer in determining the condition of the analytical instrumentation.

List the internal standard area of samples which do not meet the criteria.

DATE	SAMPLE ID	IS OUT	IS AREA	ACCEPTABLE RANGE	ACTION

Internal area meets the required criteria of batch samples corresponding to this data package.

Action:

1. If an internal standard area count for a sample or blank is greater than 200.0% of the area for the associated standard (opening CCV or mid-point standard from initial calibration) (see Table 10 below):
   a. Qualify detects for compounds quantitated using that internal standard as estimated low (J-).
   b. Do not qualify non-detected associated compounds.
2. If an internal standard area count for a sample or blank is less than 20.0% of the area for the associated standard (opening CCV or mid-point standard from initial calibration):
   a. Qualify detects for compounds quantitated using that internal standard as estimated high (J+).
   b. Qualify non-detected associated compounds as unusable (R).
3. If an internal standard area count for a sample or blank is greater than or equal to 50.0%, and less than or equal to 200% of the area for the associated standard opening CCV or mid-point standard from initial calibration, no qualification of the data is necessary.
4. If an internal standard RT varies by more than 10.0 seconds: Examine the chromatographic profile for that sample to determine if any false positives or negatives exist. For shifts of a large magnitude, the reviewer may consider partial or total rejection of the data for that sample fraction. Detects should not need to be qualified as unusable (R) if the mass spectral criteria are met.
5. If an internal standard RT varies by less than or equal to 10.0 seconds, no qualification of the data is necessary.

Note: Inform the Contract Laboratory Program Project Officer (CLP PO) if the internal standard performance criteria are grossly exceeded. Note in the Data Review Narrative potential effects on the data resulting from unacceptable internal standard performance.

State in the Data Review Narrative if the required internal standard compounds are not added to a sample or blank or if the required internal standard compound is not analyzed at the specified concentration.

Actions:

Table 10. Internal Standard Actions for Semivolatile Analysis

Criteria	Action	
	Detect	Non-detect
Area response < 20% of the opening CCV or mid-point standard CS3 from ICAL	J+	R
20% ≤ Area response < 50% of the opening CCV or mid-point standard CS3 from ICAL	J+	UJ
50% ≤ Area response ≤ 200% of the opening CCV or mid-point standard CS3 from ICAL	No qualification	No qualification
Area response > 200% of the opening CCV or mid-point standard CS3 from ICAL	J-	No qualification
RT shift between sample/blank and opening CCV or mid-point standard CS3 from ICAL > 10.0 seconds	R	R
RT shift between sample/blank and opening CCV or mid-point standard CS3 from ICAL < 10.0 seconds	No qualification	No qualification

All criteria were met __X__
Criteria were not met
and/or see below _____

TARGET COMPOUND IDENTIFICATION

Criteria:

Is the Relative Retention Times (RRTs) of reported compounds within ±0.06 RRT units of the standard RRT [opening Continuing Calibration Verification (CCV) or mid-point standard from the initial calibration]. **Yes?** or No?

List compounds not meeting the criteria described above:

Sample ID	Compounds	Actions
_____	_____	_____
_____	_____	_____
_____	_____	_____

Mass spectra of the sample compound and a current laboratory-generated standard [i.e., the mass spectrum from the associated calibration standard (opening CCV or mid-point standard from initial calibration)] must match according to the following criteria:

a. All ions present in the standard mass spectrum at a relative intensity greater than 10% must be present in the sample spectrum.

b. The relative intensities of these ions must agree within ±20% between the standard and sample spectra (e.g., for an ion with an abundance of 50% in the standard spectrum, the corresponding sample ion abundance must be between 30-70%).

c. Ions present at greater than 10% in the sample mass spectrum, but not present in the standard spectrum, must be evaluated by a reviewer experienced in mass spectral interpretation.

List compounds not meeting the criteria described above:

Sample ID	Compounds	Actions
_____	_____	_____
_Identified_compounds_meet_the_required_criteria____		_____
_____	_____	_____

Action:

1. The application of qualitative criteria for GC/MS analysis of target compounds requires professional judgment. It is up to the reviewer's discretion to obtain additional information from the laboratory. If it is determined that incorrect identifications were made, qualify all such data as unusable (R).

2. Use professional judgment to qualify the data if it is determined that cross-contamination has occurred.

3. Note in the Data Review Narrative any changes made to the reported compounds or concerns regarding target compound identifications. Note, for Contract Laboratory COR action, the necessity for numerous or significant changes.

TENTATIVELY IDENTIFIED COMPOUNDS (TICS)

NOTE: Tentatively identified compounds should only be evaluated when requested by a party from outside of the Hazardous Waste Support Section (HWSS).

List TICs

Sample ID	Compound	Sample ID	Compound

Action:

1. Qualify all TIC results for which there is presumptive evidence of a match (e.g. greater than or equal to 85% match) as tentatively identified (NJ), with approximated concentrations. TICs labeled "unknown" are qualified as estimated (J).
2. General actions related to the review of TIC results are as follows:
   a. If it is determined that a tentative identification of a non-target compound is unacceptable, change the tentative identification to "unknown" or another appropriate identification, and qualify the result as estimated (J).
   b. If all contractually-required peaks were not library searched and quantitated, the Region's designated representative may request these data from the laboratory.
3. In deciding whether a library search result for a TIC represents a reasonable identification, use professional judgment. If there is more than one possible match, report the result as "either compound X or compound Y". If there is a lack of isomer specificity, change the TIC result to a nonspecific isomer result (e.g., 1,3,5-trimethyl benzene to trimethyl benzene isomer) or to a compound class (e.g., 2-methyl, 3-ethyl benzene to a substituted aromatic compound).
4. The reviewer may elect to report all similar compounds as a total (e.g., all alkanes may be summarized and reported as total hydrocarbons).

5. Target compounds from other fractions and suspected laboratory contaminants should be marked as "non-reportable".
6. Other Case factors may influence TIC judgments. If a sample TIC match is poor, but other samples have a TIC with a valid library match, similar RRT, and the same ions, infer identification information from the other sample TIC results.
7. Note in the Data Review Narrative any changes made to the reported data or any concerns regarding TIC identifications.
8. Note, for Contract Laboratory COR action, failure to properly evaluate and report TICs

All criteria were met __X__
Criteria were not met
and/or see below _____

SAMPLE QUANTITATION AND REPORTED CONTRACT REQUIRED QUANTITATION LIMITS (CRQLS)

Action:

1. When a sample is analyzed at more than one dilution, the lower CRQL are used unless a QC exceedance dictates the use of higher CRQLs from the diluted sample. Samples reported with an "E" qualifier should be reported from the diluted sample.
2. If any discrepancies are found, the Region's designated representative may contact the laboratory to obtain additional information that could resolve any differences. If a discrepancy remains unresolved, the reviewer must use professional judgment to decide which value is the most accurate. Under these circumstances, the reviewer may determine that qualification of data is warranted. Note in the Data Review Narrative a description of the reasons for data qualification and the qualification that is applied to the data.
3. For non-aqueous samples, if the solids is less than 10.0%, use professional judgment for both detects and non-detects. If the percent solid for a soil sample is greater than or equal to 10.0% and less than 30.0%, use professional judgment to qualify detects and non-detects. If the percent solid for a soil sample is greater than or equal to 30.0%, detects and non-detects should not be qualified (see Table 11).
4. Note, for Contract Laboratory COR action, numerous or significant failures to accurately quantify the target compounds or to properly evaluate and adjust CRQLs.
5. Results between MDL and CRQL should be qualified as estimated "J".
6. Results < MDL should be reported at the CRQL and qualified "U". MDLs themselves should not be reported.

Table 11. Percent Solids Actions for Semivolatile Analysis for Non-Aqueous Samples

Criteria	Action	
	Detects	Non-detects
%Solids < 10.0%	Use professional judgment	Use professional judgment
10.0% ≤ %Solids ≤ 30.0%	Use professional judgment	Use professional judgment
%Solids > 30.0%	No qualification	No qualification

SAMPLE QUANTITATION

The sample quantitation evaluation is to verify laboratory quantitation results. In the space below, please show a minimum of one sample calculation:

Sample ID:__ JC22206-1_(Scan)__ Analyte:__1,4-dioxane__ RF:_0.734

[ ] = (34599)(40)/(149329)(0.734)
= 12.63 ppm Ok

DATA REVIEW WORKSHEETS

QUANTITATION LIMITS

A. Dilution performed

SAMPLE ID	DILUTION FACTOR	REASON FOR DILUTION
JC22206-7	10 X	1,4-Dioxane over calibration range.
JC22206-9	50 X	1,4-Dioxane over calibration range.
JC22206-10	100 X	1,4-Dioxane over calibration range.

All criteria were met _____
Criteria were not met
and/or see below ___X___

FIELD DUPLICATE PRECISION

Sample IDs: __JC22206-4/-5_____ Matrix:____Groundwater____

Field duplicates samples may be taken and analyzed as an indication of overall precision. These analyses measure both field and lab precision; therefore, the results may have more variability than laboratory duplicates which only laboratory performance. It is also expected that soil duplicate results will have a greater variance than water matrices due to difficulties associated with collecting identical field duplicate samples.

The project QAPP should be reviewed for project-specific information.
Suggested criteria: if large RPD (> 50 %) is observed, confirm identification of the samples and note differences. If both samples and duplicate are <5 SQL, the RPD criteria is doubled.

COMPOUND	SQL ug/L	SAMPLE CONC.	DUPLICATE CONC.	RPD	ACTION
bis(2-ethylhexyl)phthalate	1.7	2.1	18.9	167 %	No action, sample concentration < 5 SQL
Field duplicate analyzed as part of this data package. RPD within the required criteria < 50 % for detected target analytes above 5 SQL.					

All criteria were met __X__
Criteria were not met
and/or see below ____

OTHER ISSUES

A. System Performance

List samples qualified based on the degradation of system performance during simple analysis:

Sample ID	Comments	Actions	

Action:

Use professional judgment to qualify the data if it is determined that system performance has degraded during sample analyses. Inform the Contract Laboratory Program COR any action as a result of degradation of system performance which significantly affected the data.

B. Overall Assessment of Data

List samples qualified based on other issues:

Sample ID	Comments	Actions
_No_other_issues_that_required_the_need_to_qualify_the_data._Results_are_valid_and_can_be_used_for_decission_purposes.		

Action:

1. Use professional judgment to determine if there is any need to qualify data which were not qualified based on the Quality Control (QC) criteria previously discussed.
2. Write a brief narrative to give the user an indication of the analytical limitations of the data. Inform the Contract Laboratory COR the action, any inconsistency of the data with the Sample Delivery Group (SDG) Narrative. If sufficient information on the intended use and required quality of the data is available, the reviewer should include their assessment of the usability of the data within the given context. This may be used as part of a formal Data Quality Assessment (DQA).
3. Sometimes, due to dilutions, re-analysis or SIM/Scan runs are being performed, there will be multiple results for a single analyte from a single sample. The following criteria and professional judgment are used to determine which result should be reported:
    - The analysis with the lower CRQL
    - The analysis with the better QC results
    - The analysis with the higher results

EXECUTIVE NARRATIVE

SDG No:	**JC22206**	Laboratory:	**Accutest, Florida**
Analysis:	**SW846-8015C**	Number of Samples:	**15**
Location:	BMSMC, Building 5 Area Humacao, PR		

SUMMARY: Fifteen (15) samples were analyzed for the low molecular weight alcohols (LMWAs) list following method SW846-8015C. The sample results were assessed according to USEPA data validation guidance documents in the following order of precedence: "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods SW-846 (Final Update III, December 1996)," specifically for Methods 8000/8015C are utilized. The QC criteria and data validation actions listed on the data review worksheets are from the primary guidance document, unless otherwise noted.

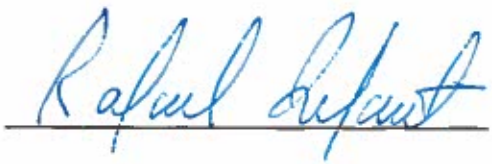
Results are valid and can be used for decision making purposes.

Critical issues:	**None**
Major:	**None**
Minor:	**None**

Critical findings:	**None**
Major findings:	**None**
Minor findings:	**None**

COMMENTS: Results are valid and can be used for decision making purposes.

Reviewers Name: Rafael Infante
Chemist License 1888

Signature: 

Date: July 19, 2016

SAMPLE ORGANIC DATA SAMPLE SUMMARY

Sample ID: JC22206-1
Sample location: BMSMC Building 5 Area
Sampling date: 6/10/2016
Matrix: Groundwater

METHOD: 8015C

Analyte Name	Result	Units	Dilution Factor	Lab Flag	Validation	Reportable
Ethanol	100	ug/l	1.0	-	U	Yes
Isobutyl Alcohol	100	ug/l	1.0	-	U	Yes
Isopropyl Alcohol	100	ug/l	1.0	-	U	Yes
n-Propyl Alcohol	100	ug/l	1.0	-	U	Yes
n-Butyl Alcohol	100	ug/l	1.0	-	U	Yes
sec-Butyl Alcohol	100	ug/l	1.0	-	U	Yes
Methanol	200	ug/l	1.0	-	U	Yes

Sample ID: JC22206-2
Sample location: BMSMC Building 5 Area
Sampling date: 6/10/2016
Matrix: Groundwater

METHOD: 8015C

Analyte Name	Result	Units	Dilution Factor	Lab Flag	Validation	Reportable
Ethanol	100	ug/l	1.0	-	U	Yes
Isobutyl Alcohol	100	ug/l	1.0	-	U	Yes
Isopropyl Alcohol	100	ug/l	1.0	-	U	Yes
n-Propyl Alcohol	100	ug/l	1.0	-	U	Yes
n-Butyl Alcohol	100	ug/l	1.0	-	U	Yes
sec-Butyl Alcohol	100	ug/l	1.0	-	U	Yes
Methanol	200	ug/l	1.0	-	U	Yes

Sample ID: JC22206-3
Sample location: BMSMC Building 5 Area
Sampling date: 6/10/2016
Matrix: Groundwater

METHOD: 8015C

Analyte Name	Result	Units	Dilution Factor	Lab Flag	Validation	Reportable
Ethanol	100	ug/l	1.0	-	U	Yes
Isobutyl Alcohol	100	ug/l	1.0	-	U	Yes
Isopropyl Alcohol	100	ug/l	1.0	-	U	Yes
n-Propyl Alcohol	100	ug/l	1.0	-	U	Yes
n-Butyl Alcohol	100	ug/l	1.0	-	U	Yes
sec-Butyl Alcohol	100	ug/l	1.0	-	U	Yes
Methanol	200	ug/l	1.0	-	U	Yes

Sample ID: JC22206-4
Sample location: BMSMC Building 5 Area
Sampling date: 6/13/2016
Matrix: Groundwater

METHOD: 8015C

Analyte Name	Result	Units	Dilution Factor	Lab Flag	Validation	Reportable
Ethanol	100	ug/l	1.0	-	U	Yes
Isobutyl Alcohol	100	ug/l	1.0	-	U	Yes
Isopropyl Alcohol	100	ug/l	1.0	-	U	Yes
n-Propyl Alcohol	100	ug/l	1.0	-	U	Yes
n-Butyl Alcohol	100	ug/l	1.0	-	U	Yes
sec-Butyl Alcohol	100	ug/l	1.0	-	U	Yes
Methanol	200	ug/l	1.0	-	U	Yes

Sample ID: JC22206-5
Sample location: BMSMC Building 5 Area
Sampling date: 6/13/2016
Matrix: Groundwater

METHOD: 8015C

Analyte Name	Result	Units	Dilution Factor	Lab Flag	Validation	Reportable
Ethanol	100	ug/l	1.0	-	U	Yes
Isobutyl Alcohol	100	ug/l	1.0	-	U	Yes
Isopropyl Alcohol	100	ug/l	1.0	-	U	Yes
n-Propyl Alcohol	100	ug/l	1.0	-	U	Yes
n-Butyl Alcohol	100	ug/l	1.0	-	U	Yes
sec-Butyl Alcohol	100	ug/l	1.0	-	U	Yes
Methanol	200	ug/l	1.0	-	U	Yes

Sample ID: JC22206-6
Sample location: BMSMC Building 5 Area
Sampling date: 6/13/2016
Matrix: Groundwater

METHOD: 8015C

Analyte Name	Result	Units	Dilution Factor	Lab Flag	Validation	Reportable
Ethanol	100	ug/l	1.0	-	U	Yes
Isobutyl Alcohol	100	ug/l	1.0	-	U	Yes
Isopropyl Alcohol	100	ug/l	1.0	-	U	Yes
n-Propyl Alcohol	100	ug/l	1.0	-	U	Yes
n-Butyl Alcohol	100	ug/l	1.0	-	U	Yes
sec-Butyl Alcohol	100	ug/l	1.0	-	U	Yes
Methanol	200	ug/l	1.0	-	U	Yes

Sample ID: JC22206-7
Sample location: BMSMC Building 5 Area
Sampling date: 6/13/2016
Matrix: Groundwater

METHOD: 8015C

Analyte Name	Result	Units	Dilution Factor	Lab Flag	Validation	Reportable
Ethanol	100	ug/l	1.0	-	U	Yes
Isobutyl Alcohol	100	ug/l	1.0	-	U	Yes
Isopropyl Alcohol	100	ug/l	1.0	-	U	Yes
n-Propyl Alcohol	100	ug/l	1.0	-	U	Yes
n-Butyl Alcohol	100	ug/l	1.0	-	U	Yes
sec-Butyl Alcohol	100	ug/l	1.0	-	U	Yes
Methanol	200	ug/l	1.0	-	U	Yes

Sample ID: JC22206-8
Sample location: BMSMC Building 5 Area
Sampling date: 6/13/2016
Matrix: Groundwater

METHOD: 8015C

Analyte Name	Result	Units	Dilution Factor	Lab Flag	Validation	Reportable
Ethanol	100	ug/l	1.0	-	U	Yes
Isobutyl Alcohol	100	ug/l	1.0	-	U	Yes
Isopropyl Alcohol	100	ug/l	1.0	-	U	Yes
n-Propyl Alcohol	100	ug/l	1.0	-	U	Yes
n-Butyl Alcohol	100	ug/l	1.0	-	U	Yes
sec-Butyl Alcohol	100	ug/l	1.0	-	U	Yes
Methanol	200	ug/l	1.0	-	U	Yes

Sample ID: JC22206-9
Sample location: BMSMC Building 5 Area
Sampling date: 6/14/2016
Matrix: Groundwater

METHOD: 8015C

Analyte Name	Result	Units	Dilution Factor	Lab Flag	Validation	Reportable
Ethanol	100	ug/l	1.0	-	U	Yes
Isobutyl Alcohol	100	ug/l	1.0	-	U	Yes
Isopropyl Alcohol	100	ug/l	1.0	-	U	Yes
n-Propyl Alcohol	100	ug/l	1.0	-	U	Yes
n-Butyl Alcohol	100	ug/l	1.0	-	U	Yes
sec-Butyl Alcohol	100	ug/l	1.0	-	U	Yes
Methanol	200	ug/l	1.0	-	U	Yes

Sample ID: JC22206-10
Sample location: BMSMC Building 5 Area
Sampling date: 6/14/2016
Matrix: Groundwater

METHOD: 8015C

Analyte Name	Result	Units	Dilution Factor	Lab Flag	Validation	Reportable
Ethanol	100	ug/l	1.0	-	U	Yes
Isobutyl Alcohol	100	ug/l	1.0	-	U	Yes
Isopropyl Alcohol	100	ug/l	1.0	-	U	Yes
n-Propyl Alcohol	100	ug/l	1.0	-	U	Yes
n-Butyl Alcohol	100	ug/l	1.0	-	U	Yes
sec-Butyl Alcohol	100	ug/l	1.0	-	U	Yes
Methanol	200	ug/l	1.0	-	U	Yes

Sample ID: JC22206-11
Sample location: BMSMC Building 5 Area
Sampling date: 6/14/2016
Matrix: AQ - Equipment Blank

METHOD: 8015C

Analyte Name	Result	Units	Dilution Factor	Lab Flag	Validation	Reportable
Ethanol	100	ug/l	1.0	-	U	Yes
Isobutyl Alcohol	100	ug/l	1.0	-	U	Yes
Isopropyl Alcohol	100	ug/l	1.0	-	U	Yes
n-Propyl Alcohol	100	ug/l	1.0	-	U	Yes
n-Butyl Alcohol	100	ug/l	1.0	-	U	Yes
sec-Butyl Alcohol	100	ug/l	1.0	-	U	Yes
Methanol	200	ug/l	1.0	-	U	Yes

Sample ID: JC22206-1MS
Sample location: BMSMC Building 5 Area
Sampling date: 6/10/2016
Matrix: Groundwater

METHOD: 8015C

Analyte Name	Result	Units	Dilution Factor	Lab Flag	Validation	Reportable
Ethanol	5250	ug/l	1.0	-	-	Yes
Isobutyl Alcohol	5780	ug/l	1.0	-	-	Yes
Isopropyl Alcohol	5410	ug/l	1.0	-	-	Yes
n-Propyl Alcohol	5420	ug/l	1.0	-	-	Yes
n-Butyl Alcohol	5010	ug/l	1.0	-	-	Yes
sec-Butyl Alcohol	5810	ug/l	1.0	-	-	Yes
Methanol	4850	ug/l	1.0	-	-	Yes

Sample ID: JC22206-1MSD
Sample location: BMSMC Building 5 Area
Sampling date: 6/10/2016
Matrix: Groundwater

METHOD: 8015C

Analyte Name	Result	Units	Dilution Factor	Lab Flag	Validation	Reportable
Ethanol	5830	ug/l	1.0	-	-	Yes
Isobutyl Alcohol	6000	ug/l	1.0	-	-	Yes
Isopropyl Alcohol	5800	ug/l	1.0	-	-	Yes
n-Propyl Alcohol	6010	ug/l	1.0	-	-	Yes
n-Butyl Alcohol	5240	ug/l	1.0	-	-	Yes
sec-Butyl Alcohol	5860	ug/l	1.0	-	-	Yes
Methanol	5380	ug/l	1.0	-	-	Yes

Sample ID: JC22206-9MS
Sample location: BMSMC Building 5 Area
Sampling date: 6/14/2016
Matrix: Groundwater

METHOD: 8015C

Analyte Name	Result	Units	Dilution Factor	Lab Flag	Validation	Reportable
Ethanol	4900	ug/l	1.0	-	-	Yes
Isobutyl Alcohol	5790	ug/l	1.0	-	-	Yes
Isopropyl Alcohol	5190	ug/l	1.0	-	-	Yes
n-Propyl Alcohol	5960	ug/l	1.0	-	-	Yes
n-Butyl Alcohol	5090	ug/l	1.0	-	-	Yes
sec-Butyl Alcohol	5780	ug/l	1.0	-	-	Yes
Methanol	4150	ug/l	1.0	-	-	Yes

Sample ID: JC22206-9MSD
Sample location: BMSMC Building 5 Area
Sampling date: 6/14/2016
Matrix: Groundwater

METHOD: 8015C

Analyte Name	Result	Units	Dilution Factor	Lab Flag	Validation	Reportable
Ethanol	5600	ug/l	1.0	-	-	Yes
Isobutyl Alcohol	5830	ug/l	1.0	-	-	Yes
Isopropyl Alcohol	5650	ug/l	1.0	-	-	Yes
n-Propyl Alcohol	5680	ug/l	1.0	-	-	Yes
n-Butyl Alcohol	5100	ug/l	1.0	-	-	Yes
sec-Butyl Alcohol	5830	ug/l	1.0	-	-	Yes
Methanol	4840	ug/l	1.0	-	-	Yes

DATA REVIEW WORKSHEETS

Project Number:___JC22206_____
Date:_____06/10-14/2016_____
Shipping Date:_____06/14/2016_____
EPA Region:_____2_____

REVIEW OF VOLATILE ORGANIC PACKAGE

The following guidelines for evaluating volatile organics were created to delineate required validation actions. This document will assist the reviewer in using professional judgment to make more informed decision and in better serving the needs of the data users. The sample results were assessed according to USEPA data validation guidance documents in the following order of precedence: "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods SW-846 (Final Update III, December 1996)," specifically for Methods 8000/8015C are utilized. The QC criteria and data validation actions listed on the data review worksheets are from the primary guidance document, unless otherwise noted.

The hardcopied (laboratory name) _Accutest_____ data package received has been reviewed and the quality control and performance data summarized. The modified data review for VOCs included:

Lab. Project/SDG No.: __JC22206_____ Sample matrix: ____Groundwater_____
No. of Samples: _____15_____

Trip blank No.: _____-_____
Field blank No.: _____-_____
Equipment blank No.:_____JC22206-11_____
Field duplicate No.:_____JC22206-4/JC22206-5_____

___X___ Data Completeness
___X___ Holding Times
___N/A_ GC/MS Tuning
___N/A_ Internal Standard Performance
___X___ Blanks
___X___ Surrogate Recoveries
___X___ Matrix Spike/Matrix Spike Duplicate
___X___ Laboratory Control Spikes
___X___ Field Duplicates
___X___ Calibrations
___X___ Compound Identifications
___X___ Compound Quantitation
___X___ Quantitation Limits

Overall Comments:_Low_molecular_weight_alcohols_by_SW-846_8015C_____
_____

Definition of Qualifiers:
J- Estimated results
U- Compound not detected
R- Rejected data
UJ- Estimated nondetect

Reviewer:_____
Date:__July_19,_2016_____

DATA REVIEW WORKSHEETS

DATA COMPLETENESS

MISSING INFORMATION	DATE LAB. CONTACTED	DATE RECEIVED

All criteria were met __X__
Criteria were not met
and/or see below ____

HOLDING TIMES

The objective of this parameter is to ascertain the validity of the results based on the holding time of the sample from time of collection to the time of analysis.

Complete table for all samples and note the analysis and/or preservation not within criteria

SAMPLE ID	DATE SAMPLED	DATE ANALYZED	pH	ACTION
All samples analyzed within the recommended method holding time. All samples properly preserved.				

Criteria

Aqueous samples – 14 days from sample collection for preserved samples (pH $\leq$ 2, 4°C), no air bubbles.
Aqueous samples – 7 days from sample collection for unpreserved samples, 4°C, no air bubbles.
Soil samples- 7 days from sample collection.
Cooler temperature (Criteria: 4 $\pm$ 2 °C): 5.2°C

Actions

If the VOCs vial(s) have air bubbles, estimate positive results (J) and reject nondetects (R).
If the % solids of soil samples is 10-50%, estimates positive results (J) and nondetects (UJ)
If the % solid of soil samples is < 10%, estimate positive results (J) and reject nondetects (R).
If holding times are exceeded but < 14 days beyond criteria, estimate positive results (J) and nondetects (UJ).
If holding times are exceeded but < 28 days beyond criteria, estimate positive results (J) and reject nondetects (R).
If holding times are grossly exceeded (> 28 days beyond criteria), reject all results (R).
If samples were not iced or if the ice were melted (> 10°C), estimate positive results (J) and nondetects (UJ).

All criteria were met __N/A__
Criteria were not met see below ____

GC/MS TUNING

The assessment of the tuning results is to determine if the sample instrumentation is within the standard tuning QC limits

__N/A_ The BFB performance results were reviewed and found to be within the specified criteria.

__N/A_ BFB tuning was performed for every 12 hours of sample analysis.

If no, use professional judgment to determine whether the associated data should be accepted, qualified or rejected.

List the samples affected: _____

If mass calibration is in error, all associated data are rejected.

All criteria were met __X__
Criteria were not met
and/or see below _____

CALIBRATION VERIFICATION

Compliance requirements for satisfactory instrument calibration are established to ensure that the instrument is capable of producing and maintaining acceptable quantitative data.

Date of initial calibration:_____05/17/16_____
Dates of continuing calibration:_____05/17/16 (initial);_06/16/16;_06/20/16__
Dates of final calibration verification:___06/16/16;_06/20/16_____
Instrument ID number:_____GCGH_____
Matrix/Level:_____Aqueous/low_____

DATE	LAB FILE ID#	CRITERIA OUT RFs, %RSD, %D, r	COMPOUND	SAMPLES AFFECTED

Note: Initial, continuing, and final calibration verifications meets method specific criteria in the two columns.

Criteria

All RFs must be > 0.05 regardless of method requirements for SPCC.
All %RSD must be ≤ 15 % regardless of method requirements for CCC.
All %Ds must be ≤ 20% regardless of method requirements for CCC.
It should be noted that Region 2 SOP HW-24 does not specify criterion for the curve correlation coefficient (r). A limit for r of ≥ 0.995 has therefore been utilized as professional judgment.

Actions

If any compound has an initial RF or a continuing RF of < 0.05, estimate positive results (J) and reject nondetects (R), regardless of method requirements.
If any compound has a %RSD > 15%, estimate positive results (J) and use professional judgment to qualify nondetects.
If any compound has a %RSD > 90%, estimate positive results (J) and reject nondetects (R).
If any compound has a % D > 20%, estimate positive results (J) and reject nondetects (R).
If any compound has a % D > 20%, estimate positive results (J) and nondetects (UJ).
If any compound has a % D > 90%, estimate positive results (J) and reject nondetects (R).
If any compound has r < 0.995, estimate positive results and nondetects.

A separate worksheet should be filled for each initial curve

All criteria were met __X__
Criteria were not met
and/or see below _____

V A. BLANK ANALYSIS RESULTS (Sections 1 & 2)

The assessment of the blank analysis results is to determine the existence and magnitude of contamination problems. The criteria for evaluation of blanks apply only to blanks associated with the samples, including trip, equipment, and laboratory blanks. If problems with any blanks exist, all data associated with the case must be carefully evaluated to determine whether or not there is an inherent variability in the data for the case, or if the problem is an isolated occurrence not affecting other data.

List the contamination in the blanks below. High and low levels blanks must be treated separately.

Laboratory blanks

DATE ANALYZED	LAB ID	LEVEL/ MATRIX	COMPOUND	CONCENTRATION UNITS
All_method_blank_meeth_method_specific_criteria				

Field/Equipment/Trip blank

DATE ANALYZED	LAB ID	LEVEL/ MATRIX	COMPOUND	CONCENTRATION UNITS

No_target_analytes_detected_in_the_equipment_blank._No_field/trip_blanks_included_in_this_data_package.

All criteria were met __X__
Criteria were not met
and/or see below _____

V B. BLANK ANALYSIS RESULTS (Section 3)

Blank Actions

Action Levels (ALs) should be based upon the highest concentration of contaminant determined in any blank. Do not qualify any blank with another blank. The ALs for samples which have been diluted should be corrected for the sample dilution factor and/or % moisture, where applicable. No positive sample results should be reported unless the concentration of the compound in the samples exceeds the ALs:

ALs = 10x the amount of common contaminants (methylene chloride, acetone, 2-butanone, and toluene)
ALs = 5x for any other compounds

Specific actions are as follows:

If the concentration is < sample quantitation limit (SQL) and ≤ AL, report the compound as not detected (U) at the SQL.
If the concentration is ≥ SQL but ≤ AL, report the compound as not detected (U) at the reported concentration.
If the concentration is ≥ SQL and > AL, report the concentration unqualified.

Notes:

High and low level blanks must be treated separately
Compounds qualified "U" for blank contamination are still considered "hits" when qualifying for calibration criteria.

CONTAMINATION SOURCE/LEVEL	COMPOUND	CONC/UNITS	AL/UNITS	SQL	AFFECTED SAMPLES

All criteria were met ___X___
Criteria were not met
and/or see below _____

SURROGATE SPIKE RECOVERIES

Laboratory performance of individual samples is established by evaluation of surrogate spike recoveries. All samples are spiked with surrogate compounds prior to sample analysis. The accuracy of the analysis is measured by the surrogate percent recovery. Since the effects of the sample matrix are frequently outside the control of the laboratory and may present relatively unique problems, the validation of data is frequently subjective and demands analytical experience and professional judgment.
List the percent recoveries (%Rs) which do not meet the criteria for surrogate recovery.
Matrix: solid/aqueous

SAMPLE ID	SURROGATE COMPOUND				ACTION
	Hexanol	~~DBFM~~	~~TOL-d8~~	~~BFB~~	

_All_surrogate_recoveries_within_laboratory_control_limits._____

QC Limits* (Aqueous)
_____LL_to_UL___ _56_to_145_ ___to_____ ___to_____ ___to_____
QC Limits* (Solid-Low)
_____LL_to_UL___ ____to_____ ___to_____ ___to_____ ___to_____
QC Limits* (Solid-Med)
_____LL_to_UL___ ____to_____ ___to_____ ___to_____ ___to_____

1,2-DCA = 1,2-Dichloromethane-d4 TOL-d8 = Toluene-d8
DBFM = Dibromofluoromethane BFB = Bromofluorobenzene

* QC limits are laboratory in-house performance criteria, LL = lower limit, UL = upper limit.
* If QC limits are not available, use limits of 80 – 120 % for aqueous and 70 – 130 % for solid samples.

Actions:

QUALITY	%R < 10%	%R = 10% - LL	%R > UL
Positive results	J	J	J
Nondetects results	R	UJ	Accept

Surrogate action should be applied:

If one or more surrogate in the VOC fraction is out of specification, but has a recovery of > 10%.
If any one surrogate in a fraction shows < 10 % recovery.

All criteria were met __X___
Criteria were not met
and/or see below _____

VII. A MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD)

This data is generated to determine long term precision and accuracy in the analytical method for various matrices. This data alone cannot be used to evaluate the precision and accuracy of individual samples. If any % R in the MS or MSD falls outside the designated range, the reviewer should determine if there are matrix effects, i.e. LCS data are within the QC limits but MS/MSD data are outside QC limit.

1. MS/MSD Recoveries and Precision Criteria

The laboratory should use one MS and a duplicate analysis of an unspiked field sample if target analytes are expected in the sample. If target analytes are not expected, MS/MSD should be analyzed.

List the %Rs, RPD of the compounds which do not meet the criteria.

Sample ID:__JC22206-1MS/-MSD_____ Matrix/Level:____Groundwater/low_____
Sample ID:__JC22206-9MS/-MSD_____ Matrix/Level:____Groundwater/low_____

MS OR MSD COMPOUND % R RPD QC LIMITS ACTION

MS/MSD%_recoveries_and_RPD_within_laboratory_control_limits._____
_____
_____
_____
_____
_____
_____

* QC limits are laboratory in-house performance criteria, LL = lower limit, UL = upper limit.
* If QC limits are not available, use limits of 70 – 130 %.

Actions:

QUALITY	%R < LL	%R > UL
Positive results	J	J
Nondetects results	R	Accept

All criteria were met __X__
Criteria were not met
and/or see below _____

MS/MSD criteria apply only to the unspiked sample, its dilutions, and the associated MS/MSD samples:

If the % R for the affected compounds were < LL (or 70 %), qualify positive results (J) and nondetects (UJ).
If the % R for the affected compounds were > UL (or 130 %), only qualify positive results (J).
If 25 % or more of all MS/MSD %R were < LL (or 70 %) or if two or more MS/MSD %Rs were < 10%, qualify all positive results (J) and reject nondetects (R).

VII. B MATRIX SPIKE/MATRIX SPIKE DUPLICATE

MS/MSD – Unspiked Compounds

It should be noted that Region 2 SOP HW-24 does not specify a MS/MSD criteria for the unspiked compounds in the sample. A %RSD of < 50% has therefore been utilized as professional judgment.

If all target analytes were spiked in the MS/MSD, this review element is not applicable.

List the %RSD of the compounds which do not meet the criteria.

Sample ID:_____-_____ Matrix/Level/Unit:_____-_____

COMPOUND	SAMPLE CONC.	MS CONC.	MSD CONC.	% RSD	ACTION

Actions:

* If the % RSD > 50, qualify the positive result in the unspiked samples as estimated (J).
* If the % RSD is not calculated (NC) due to nondetected value, use professional judgment to qualify the data.

A separate worksheet should be used for each MS/MSD pair.

All criteria were met __X__
Criteria were not met
and/or see below _____

VIII. LABORATORY CONTROL SAMPLE (LCS) ANALYSIS

This data is generated to determine accuracy of the analytical method for various matrices.

1. LCS Recoveries Criteria

Where LCS spiked with the same analyte at the same concentrations as the MS/MSD? **Yes** or No. If no make note in data review memo.

List the %R of compounds which do not meet the criteria

LCS ID COMPOUND % R QC LIMIT

___Recoveries_within_laboratory_control_limits._____
_____
_____
_____
_____

* QC limits are laboratory in-house performance criteria, LL = lower limit, UL = upper limit.
* If QC limits are not available, use limits of 70 – 130 %.

Actions:

QUALITY	%R < LL	%R > UL
Positive results	J	J
Nondetects results	R	Accept

All analytes in the associated sample results are qualified for the following criteria.

If 25 % of the LCS recoveries were < LL (or 70 %), qualify all positive results (j) and reject nondetects (R).
If two or more LCS were below 10 %, qualify all positive results as (J) and reject nondetects (R).

2. Frequency Criteria:

Where LCS analyzed at the required frequency and for each matrix? Yes or No.
If no, the data may be affected. Use professional judgment to determine the severity of the effect and qualify data accordingly. Discuss any actions below and list the samples affected.

All criteria were met __X__
Criteria were not met
and/or see below _____

IX. FIELD/LABORATORY DUPLICATE PRECISION

Sample IDs: __JC22206-4/JC22206-5_____ Matrix:___Groundwater____

Field/laboratory duplicates samples may be taken and analyzed as an indication of overall precision. These analyses measure both field and lab precision; therefore, the results may have more variability than laboratory duplicates which only laboratory performance. It is also expected that soil duplicate results will have a greater variance than water matrices due to difficulties associated with collecting identical field duplicate samples.

The project QAPP should be reviewed for project-specific information.
Suggested criteria: RPD ± 30% for aqueous samples, RPD ± 50 % for solid samples. If both samples and duplicate are <5 SQL, the RPD criteria is doubled.

COMPOUND	SQL	SAMPLE CONC.	DUPLICATE CONC.	RPD	ACTION
Field duplicate analyzed with this data package. RPD within laboratory, generally acceptable and guidance document performance criteria control limits.					

Actions:

Qualify as estimated positive results (J) and nondetects (UJ) for the compound that exceeded the above criteria. For organics, only the sample and duplicate will be qualified.

If an RPD cannot be calculated because one or both of the sample results is not detected, the following actions apply:

If one sample result is not detected and the other is greater than 5x the SQL qualify (J/UJ).

If one sample value is not detected and the other is greater than 5x the SQL and the SQLs for the sample and duplicate are significantly different, use professional judgment to determine if qualification is appropriate.

If one sample value is not detected and the other is less than 5x, use professional judgment to determine if qualification is appropriate.

If both sample and duplicate results are not detected, no action is needed.

All criteria were met __N/A__
Criteria were not met
and/or see below ____

X. INTERNAL STANDARD PERFORMANCE

The assessment of the internal standard (IS) parameter is used to assist the data reviewer in determining the condition of the analytical instrumentation.

List the internal standard area of samples which do not meet the criteria.

* Area of +100% or -50% of the IS area in the associated calibration standard.
* Retention time (RT) within 30 seconds of the IS area in the associated calibration standard.

DATE	SAMPLE ID	IS OUT	IS AREA	ACCEPTABLE RANGE	ACTION

Actions:

1. IS actions should be applied to the compound quantitated with the out-of-control ISs

QUALITY	IS AREA < -25%	IS AREA = -25 % TO – 50%	IS AREA > + 100%
Positive results	J	J	J
Nondetected results	R	UJ	ACCEPT

2. If a IS retention time varies more than 30 seconds, the chromatographic profile for that sample must be examined to determine if any false positive or negative exists. For shifts of a large magnitude, the reviewer may consider partial or total rejection of the data for the sample fraction.

All criteria were met __X__
Criteria were not met
and/or see below _____

XII. SAMPLE QUANTITATION

The sample quantitation evaluation is to verify laboratory quantitation results. In the space below, please show a minimum of one sample calculation:

JC22206-1MS

Tert-butyl-alcohol RF = 28.33

[ ] = (173195)/(28.33)

= 6,113 ppm OK

All criteria were met __X__
Criteria were not met
and/or see below _____

XII. QUANTITATION LIMITS

A. Dilution performed

SAMPLE ID	DILUTION FACTOR	REASON FOR DILUTION

B. Percent Solids

List samples which have ≤ 50 % solids

_____
_____
_____
_____
_____
_____

Actions:

If the % solids of a soil sample is 10-50%, estimate positive results (J) and nondetects (UJ)

If the % solids of a soil sample is < 10%, estimate positive results (J) and reject nondetects (R)

EXECUTIVE NARRATIVE

SDG No:	**JC22206**	Laboratory:	**Accutest, New Jersey**
Analysis:	**SW846-8081B**	Number of Samples:	**10**

Location: BMSMC, Building 5 Area
Humacao, PR

SUMMARY: Ten (10) samples were analyzed for selected pesticides following method SW846-8081B. The sample results were assessed according to USEPA data validation guidance documents in the following order of precedence *Hazardous Waste Support Section SOP No. HW-36A, Revision 0, June, 2015. SOM02.2. Pesticide Data Validation.* The QC criteria and data validation actions listed on the data review worksheets are from the primary guidance document, unless otherwise noted.

Results are valid and can be used for decision making purposes.

Critical issues: **None**
Major: **None**
Minor: **None**

Critical findings: **None**
Major findings: **None**
Minor findings:

1. Initial and initial calibration verification within the guidance document performance criteria. Continuing calibration % differences meet the performance criteria in at least one of the two columns. Final calibration verification not included in data package. No action taken, professional judgment.

2. Surrogate recoveries within laboratory control limits in the two columns except in sample JC22206-8. Sample re-analyzed and surrogate recoveries within laboratory control limits. No action taken.

COMMENTS: Results are valid and can be used for decision making purposes.

Reviewers Name: Rafael Infante
Chemist License 1888

Signature: 

Date: July 19, 2016

SAMPLE ORGANIC DATA SAMPLE SUMMARY

Sample ID: JC22206-6
Sample location: BMSMC Building 5 Area
Sampling date: 13-Jun-16
Matrix: Groundwater

METHOD: 8081B

Analyte Name	Result	Units	Dilution Factor	Lab Flag	Validation	Reportable
Aldrin	0.011	ug/l	1	-	U	Yes
alpha-BHC	0.011	ug/l	1	-	U	Yes
beta-BHC	0.011	ug/l	1	-	U	Yes
delta-BHC	0.011	ug/l	1	-	U	Yes
gamma-BHC (Lindane)	0.011	ug/l	1	-	U	Yes
alpha-Chlordane	0.011	ug/l	1	-	U	Yes
gamma-Chlordane	0.011	ug/l	1	-	U	Yes
Dieldrin	0.011	ug/l	1	-	U	Yes
4,4'-DDD	0.011	ug/l	1	-	U	Yes
4,4'-DDE	0.011	ug/l	1	-	U	Yes
4,4'-DDT	0.011	ug/l	1	-	U	Yes
Endrin	0.011	ug/l	1	-	U	Yes
Endosulfan sulfate	0.011	ug/l	1	-	U	Yes
Endrin aldehyde	0.011	ug/l	1	-	U	Yes
Endrin ketone	0.011	ug/l	1	-	U	Yes
Endosulfan-I	0.011	ug/l	1	-	U	Yes
Endosulfan-II	0.011	ug/l	1	-	U	Yes
Heptachlor	0.011	ug/l	1	-	U	Yes
Heptachlor epoxide	0.011	ug/l	1	-	U	Yes
Methoxychlor	0.022	ug/l	1	-	U	Yes
Toxaphene	0.27	ug/l	1	-	U	Yes

Sample ID: JC22206-5
Sample location: BMSMC Building 5 Area
Sampling date: 13-Jun-16
Matrix: Groundwater

METHOD: 8081B

Analyte Name	Result	Units	Dilution Factor	Lab Flag	Validation	Reportable
Aldrin	0.010	ug/l	1	-	U	Yes
alpha-BHC	0.010	ug/l	1	-	U	Yes
beta-BHC	0.010	ug/l	1	-	U	Yes
delta-BHC	0.010	ug/l	1	-	U	Yes
gamma-BHC (Lindane)	0.010	ug/l	1	-	U	Yes
alpha-Chlordane	0.010	ug/l	1	-	U	Yes
gamma-Chlordane	0.010	ug/l	1	-	U	Yes
Dieldrin	0.010	ug/l	1	-	U	Yes
4,4'-DDD	0.010	ug/l	1	-	U	Yes
4,4'-DDE	0.010	ug/l	1	-	U	Yes
4,4'-DDT	0.010	ug/l	1	-	U	Yes
Endrin	0.010	ug/l	1	-	U	Yes
Endosulfan sulfate	0.010	ug/l	1	-	U	Yes
Endrin aldehyde	0.010	ug/l	1	-	U	Yes
Endrin ketone	0.010	ug/l	1	-	U	Yes
Endosulfan-I	0.010	ug/l	1	-	U	Yes
Endosulfan-II	0.010	ug/l	1	-	U	Yes
Heptachlor	0.010	ug/l	1	-	U	Yes
Heptachlor epoxide	0.010	ug/l	1	-	U	Yes
Methoxychlor	0.020	ug/l	1	-	U	Yes
Toxaphene	0.26	ug/l	1	-	U	Yes

Sample ID: JC22206-6
Sample location: BMSMC Building 5 Area
Sampling date: 13-Jun-16
Matrix: Groundwater

METHOD: 8081B

Analyte Name	Result	Units	Dilution Factor	Lab Flag	Validation	Reportable
Aldrin	0.010	ug/l	1	-	U	Yes
alpha-BHC	0.010	ug/l	1	-	U	Yes
beta-BHC	0.010	ug/l	1	-	U	Yes
delta-BHC	0.010	ug/l	1	-	U	Yes
gamma-BHC (Lindane)	0.010	ug/l	1	-	U	Yes
alpha-Chlordane	0.010	ug/l	1	-	U	Yes
gamma-Chlordane	0.010	ug/l	1	-	U	Yes
Dieldrin	0.010	ug/l	1	-	U	Yes
4,4'-DDD	0.010	ug/l	1	-	U	Yes
4,4'-DDE	0.010	ug/l	1	-	U	Yes
4,4'-DDT	0.010	ug/l	1	-	U	Yes
Endrin	0.010	ug/l	1	-	U	Yes
Endosulfan sulfate	0.010	ug/l	1	-	U	Yes
Endrin aldehyde	0.010	ug/l	1	-	U	Yes
Endrin ketone	0.010	ug/l	1	-	U	Yes
Endosulfan-I	0.010	ug/l	1	-	U	Yes
Endosulfan-II	0.010	ug/l	1	-	U	Yes
Heptachlor	0.010	ug/l	1	-	U	Yes
Heptachlor epoxide	0.010	ug/l	1	-	U	Yes
Methoxychlor	0.021	ug/l	1	-	U	Yes
Toxaphene	0.26	ug/l	1	-	U	Yes

Sample ID: JC22206-7
Sample location: BMSMC Building 5 Area
Sampling date: 13-Jun-16
Matrix: Groundwater

METHOD: 8081B

Analyte Name	Result	Units	Dilution Factor	Lab Flag	Validation	Reportable
Aldrin	0.011	ug/l	1	-	U	Yes
alpha-BHC	0.011	ug/l	1	-	U	Yes
beta-BHC	0.011	ug/l	1	-	U	Yes
delta-BHC	0.011	ug/l	1	-	U	Yes
gamma-BHC (Lindane)	0.011	ug/l	1	-	U	Yes
alpha-Chlordane	0.011	ug/l	1	-	U	Yes
gamma-Chlordane	0.011	ug/l	1	-	U	Yes
Dieldrin	0.011	ug/l	1	-	U	Yes
4,4'-DDD	0.011	ug/l	1	-	U	Yes
4,4'-DDE	0.011	ug/l	1	-	U	Yes
4,4'-DDT	0.011	ug/l	1	-	U	Yes
Endrin	0.011	ug/l	1	-	U	Yes
Endosulfan sulfate	0.011	ug/l	1	-	U	Yes
Endrin aldehyde	0.011	ug/l	1	-	U	Yes
Endrin ketone	0.011	ug/l	1	-	U	Yes
Endosulfan-I	0.011	ug/l	1	-	U	Yes
Endosulfan-II	0.011	ug/l	1	-	U	Yes
Heptachlor	0.011	ug/l	1	-	U	Yes
Heptachlor epoxide	0.011	ug/l	1	-	U	Yes
Methoxychlor	0.022	ug/l	1	-	U	Yes
Toxaphene	0.27	ug/l	1	-	U	Yes

Sample ID: JC22206-8
Sample location: BMSMC Building 5 Area
Sampling date: 13-Jun-16
Matrix: Groundwater

METHOD: 8081B

Analyte Name	Result	Units	Dilution Factor	Lab Flag	Validation	Reportable
Aldrin	0.052	ug/l	1	-	U	Yes
alpha-BHC	0.052	ug/l	1	-	U	Yes
beta-BHC	0.052	ug/l	1	-	U	Yes
delta-BHC	0.052	ug/l	1	-	U	Yes
gamma-BHC (Lindane)	0.052	ug/l	1	-	U	Yes
alpha-Chlordane	0.052	ug/l	1	-	U	Yes
gamma-Chlordane	0.052	ug/l	1	-	U	Yes
Dieldrin	0.052	ug/l	1	-	U	Yes
4,4'-DDD	0.052	ug/l	1	-	U	Yes
4,4'-DDE	0.052	ug/l	1	-	U	Yes
4,4'-DDT	0.052	ug/l	1	-	U	Yes
Endrin	0.052	ug/l	1	-	U	Yes
Endosulfan sulfate	0.052	ug/l	1	-	U	Yes
Endrin aldehyde	0.052	ug/l	1	-	U	Yes
Endrin ketone	0.052	ug/l	1	-	U	Yes
Endosulfan-I	0.052	ug/l	1	-	U	Yes
Endosulfan-II	0.052	ug/l	1	-	U	Yes
Heptachlor	0.052	ug/l	1	-	U	Yes
Heptachlor epoxide	0.052	ug/l	1	-	U	Yes
Methoxychlor	0.10	ug/l	1	-	U	Yes
Toxaphene	1.3	ug/l	1	-	U	Yes

Sample ID: JC22206-9
Sample location: BMSMC Building 5 Area
Sampling date: 14-Jun-16
Matrix: Groundwater

METHOD: 8081B

Analyte Name	Result	Units	Dilution Factor	Lab Flag	Validation	Reportable
Aldrin	0.011	ug/l	1	-	U	Yes
alpha-BHC	0.011	ug/l	1	-	U	Yes
beta-BHC	0.011	ug/l	1	-	U	Yes
delta-BHC	0.011	ug/l	1	-	U	Yes
gamma-BHC (Lindane)	0.011	ug/l	1	-	U	Yes
alpha-Chlordane	0.011	ug/l	1	-	U	Yes
gamma-Chlordane	0.011	ug/l	1	-	U	Yes
Dieldrin	0.011	ug/l	1	-	U	Yes
4,4'-DDD	0.011	ug/l	1	-	U	Yes
4,4'-DDE	0.011	ug/l	1	-	U	Yes
4,4'-DDT	0.011	ug/l	1	-	U	Yes
Endrin	0.011	ug/l	1	-	U	Yes
Endosulfan sulfate	0.011	ug/l	1	-	U	Yes
Endrin aldehyde	0.011	ug/l	1	-	U	Yes
Endrin ketone	0.011	ug/l	1	-	U	Yes
Endosulfan-I	0.011	ug/l	1	-	U	Yes
Endosulfan-II	0.011	ug/l	1	-	U	Yes
Heptachlor	0.011	ug/l	1	-	U	Yes
Heptachlor epoxide	0.011	ug/l	1	-	U	Yes
Methoxychlor	0.022	ug/l	1	-	U	Yes
Toxaphene	0.27	ug/l	1	-	U	Yes

Sample ID: JC22206-10
Sample location: BMSMC Building 5 Area
Sampling date: 14-Jun-16
Matrix: Groundwater

METHOD: 8081B

Analyte Name	Result	Units	Dilution Factor	Lab Flag	Validation	Reportable
Aldrin	0.010	ug/l	1	-	U	Yes
alpha-BHC	0.010	ug/l	1	-	U	Yes
beta-BHC	0.010	ug/l	1	-	U	Yes
delta-BHC	0.010	ug/l	1	-	U	Yes
gamma-BHC (Lindane)	0.010	ug/l	1	-	U	Yes
alpha-Chlordane	0.010	ug/l	1	-	U	Yes
gamma-Chlordane	0.010	ug/l	1	-	U	Yes
Dieldrin	0.010	ug/l	1	-	U	Yes
4,4'-DDD	0.010	ug/l	1	-	U	Yes
4,4'-DDE	0.010	ug/l	1	-	U	Yes
4,4'-DDT	0.010	ug/l	1	-	U	Yes
Endrin	0.010	ug/l	1	-	U	Yes
Endosulfan sulfate	0.010	ug/l	1	-	U	Yes
Endrin aldehyde	0.010	ug/l	1	-	U	Yes
Endrin ketone	0.010	ug/l	1	-	U	Yes
Endosulfan-I	0.010	ug/l	1	-	U	Yes
Endosulfan-II	0.010	ug/l	1	-	U	Yes
Heptachlor	0.010	ug/l	1	-	U	Yes
Heptachlor epoxide	0.010	ug/l	1	-	U	Yes
Methoxychlor	0.020	ug/l	1	-	U	Yes
Toxaphene	0.26	ug/l	1	-	U	Yes

Sample ID: JC22206-11
Sample location: BMSMC Building 5 Area
Sampling date: 14-Jun-16
Matrix: AQ - Equipment Blank

METHOD: 8081B

Analyte Name	Result	Units	Dilution Factor	Lab Flag	Validation	Reportable
Aldrin	0.011	ug/l	1	-	U	Yes
alpha-BHC	0.011	ug/l	1	-	U	Yes
beta-BHC	0.011	ug/l	1	-	U	Yes
delta-BHC	0.011	ug/l	1	-	U	Yes
gamma-BHC (Lindane)	0.011	ug/l	1	-	U	Yes
alpha-Chlordane	0.011	ug/l	1	-	U	Yes
gamma-Chlordane	0.011	ug/l	1	-	U	Yes
Dieldrin	0.011	ug/l	1	-	U	Yes
4,4'-DDD	0.011	ug/l	1	-	U	Yes
4,4'-DDE	0.011	ug/l	1	-	U	Yes
4,4'-DDT	0.011	ug/l	1	-	U	Yes
Endrin	0.011	ug/l	1	-	U	Yes
Endosulfan sulfate	0.011	ug/l	1	-	U	Yes
Endrin aldehyde	0.011	ug/l	1	-	U	Yes
Endrin ketone	0.011	ug/l	1	-	U	Yes
Endosulfan-I	0.011	ug/l	1	-	U	Yes
Endosulfan-II	0.011	ug/l	1	-	U	Yes
Heptachlor	0.011	ug/l	1	-	U	Yes
Heptachlor epoxide	0.011	ug/l	1	-	U	Yes
Methoxychlor	0.022	ug/l	1	-	U	Yes
Toxaphene	0.27	ug/l	1	-	U	Yes

Sample ID: JC22206-9MS
Sample location: BMSMC Building 5 Area
Sampling date: 14-Jun-16
Matrix: Groundwater

METHOD: 8081B

Analyte Name	Result	Units	Dilution Factor	Lab Flag	Validation	Reportable
Aldrin	0.25	ug/l	1	-	-	Yes
alpha-BHC	0.26	ug/l	1	-	-	Yes
beta-BHC	0.22	ug/l	1	-	-	Yes
delta-BHC	0.26	ug/l	1	-	-	Yes
gamma-BHC (Lindane)	0.27	ug/l	1	-	-	Yes
alpha-Chlordane	0.27	ug/l	1	-	-	Yes
gamma-Chlordane	0.24	ug/l	1	-	-	Yes
Dieldrin	0.26	ug/l	1	-	-	Yes
4,4'-DDD	0.25	ug/l	1	-	-	Yes
4,4'-DDE	0.27	ug/l	1	-	-	Yes
4,4'-DDT	0.26	ug/l	1	-	-	Yes
Endrin	0.28	ug/l	1	-	-	Yes
Endosulfan sulfate	0.30	ug/l	1	-	-	Yes
Endrin aldehyde	0.23	ug/l	1	-	-	Yes
Endrin ketone	0.30	ug/l	1	-	-	Yes
Endosulfan-I	0.24	ug/l	1	-	-	Yes
Endosulfan-II	0.26	ug/l	1	-	-	Yes
Heptachlor	0.25	ug/l	1	-	-	Yes
Heptachlor epoxide	0.26	ug/l	1	-	-	Yes
Methoxychlor	0.27	ug/l	1	-	-	Yes
Toxaphene	ND					

Sample ID: JC22206-9MSD
Sample location: BMSMC Building 5 Area
Sampling date: 14-Jun-16
Matrix: Groundwater

METHOD: 8081B

Analyte Name	Result	Units	Dilution Factor	Lab Flag	Validation	Reportable
Aldrin	0.21	ug/l	1	-	-	Yes
alpha-BHC	0.22	ug/l	1	-	-	Yes
beta-BHC	0.20	ug/l	1	-	-	Yes
delta-BHC	0.23	ug/l	1	-	-	Yes
gamma-BHC (Lindane)	0.23	ug/l	1	-	-	Yes
alpha-Chlordane	0.24	ug/l	1	-	-	Yes
gamma-Chlordane	0.22	ug/l	1	-	-	Yes
Dieldrin	0.23	ug/l	1	-	-	Yes
4,4'-DDD	0.21	ug/l	1	-	-	Yes
4,4'-DDE	0.23	ug/l	1	-	-	Yes
4,4'-DDT	0.22	ug/l	1	-	-	Yes
Endrin	0.24	ug/l	1	-	-	Yes
Endosulfan sulfate	0.26	ug/l	1	-	-	Yes
Endrin aldehyde	0.21	ug/l	1	-	-	Yes
Endrin ketone	0.26	ug/l	1	-	-	Yes
Endosulfan-I	0.21	ug/l	1	-	-	Yes
Endosulfan-II	0.23	ug/l	1	-	-	Yes
Heptachlor	0.21	ug/l	1	-	-	Yes
Heptachlor epoxide	0.23	ug/l	1	-	-	Yes
Methoxychlor	0.24	ug/l	1	-	-	Yes
Toxaphene	ND					

DATA REVIEW WORKSHEETS

Project/Case Number:_____JC22206___
Sampling Date:__June_10-14,_2016___
Shipping Date:___June_14,_2016_____
EPA Region No.:_____2_____

REVIEW OF PESTICIDE ORGANIC PACKAGE

The following guidelines for evaluating volatile organics were created to delineate required validation actions. This document will assist the reviewer in using professional judgment to make more informed decision and in better serving the needs of the data users. The sample results were assessed according to USEPA data validation guidance documents in the following order of precedence *Hazardous Waste Support Section SOP No. HW-36A, Revision 0, June, 2015. SOM02.2. Pesticide Data Validation.* The QC criteria and data validation actions listed on the data review worksheets are from the primary guidance document, unless otherwise noted.

The hardcopied (laboratory name) _Accutest_____ data package received has been reviewed and the quality control and performance data summarized. The data review for VOCs included:

Lab. Project/SDG No.: __JC22206_____ Sample matrix: _____Groundwater_____
No. of Samples: _____10_____

Trip blank No.: _____-_____
Field blank No.: _____-_____
Equipment blank No.:_____JC22206-11_____
Field duplicate No.:_____JC22206-4/JC22206-5_____
Field spikes No.:_____ JC22206-9_____
QC audit samples:_____-_____

___X___ Data Completeness
___X___ Holding Times
__N/A__ GC/MS Tuning
___X__ Internal Standard Performance
___X___ Blanks
___X___ Surrogate Recoveries
___X___ Matrix Spike/Matrix Spike Duplicate
__X____ Laboratory Control Spikes
__X____ Field Duplicates
__X____ Calibrations
__X____ Compound Identifications
__X____ Compound Quantitation
__X____ Quantitation Limits

Overall Comments:__TCL_pesticides_list_by_SW846-8081B_____
_____

Definition of Qualifiers:
J- Estimated results
U- Compound not detected
R- Rejected data
UJ- Estimated nondetect

Reviewer:_____
Date:__July_19,_2016_____

DATA REVIEW WORKSHEETS

DATA COMPLETENESS

MISSING INFORMATION	DATE LAB. CONTACTED	DATE RECEIVED

All criteria were met __X__
Criteria were not met
and/or see below _____

HOLDING TIMES

The objective of this parameter is to ascertain the validity of the results based on the holding time of the sample from time of collection to the time of analysis.

Complete table for all samples and note the analysis and/or preservation not within criteria

SAMPLE ID	DATE SAMPLED	DATE EXTRACTED/ANALYZED	ACTION
Samples properly preserved.			

Preservatives: All_samples_extracted_and_analyzed_within_the_required_criteria.

Criteria

Aqueous samples - seven (7) days from sample collection for extraction; 40 days from sample collection for analysis.
Non-aqueous samples – fourteen (14) days from sample collection for extraction; 40 days from sample collection for analysis.

Cooler temperature (Criteria: 4 ± 2 °C): 5.2°C - OK

Actions

Qualify aqueous sample results using preservation and technical holding time information as follows:

a. If there is no evidence that the samples were properly preserved (T = 4°C ± 2°C), and the samples were extracted or analyzed within the technical holding times, qualify detects as estimated (J) and non-detects as estimated (UJ).

b. If there is no evidence that the samples were properly preserved (T = 4°C ± 2°C), and the samples were extracted or analyzed outside the technical holding times, qualify detects as estimated (J) and non-detects as estimated (UJ).

c. If the samples were properly preserved, and were extracted and analyzed within the technical holding times, no qualification of the data is necessary.

d. If the samples were properly preserved, and were extracted or analyzed outside the technical holding times, qualify detects as estimated (J) and non-detects as estimated (UJ). Note in the Data Review Narrative that holding times were exceeded and the effect of exceeding the holding time on the resulting data.

e. Use professional judgment to qualify samples whose temperature upon receipt at the laboratory is either below 2 degrees centigrade or above 6 degrees centigrade.
f. If technical holding times are grossly exceeded, use professional judgment to qualify the data.

Qualify non-aqueous sample results using preservation and technical holding time information as follows:

a. If there is no evidence that the samples were properly preserved (T = 4°C ± 2°C), and the samples were extracted or analyzed within the technical holding time, qualify detects as estimated (J) and non-detects as estimated (UJ).

b. If there is no evidence that the samples were properly preserved (T = 4°C ± 2°C), and the samples were extracted or analyzed outside the technical holding time, qualify detects as estimated (J) and non-detects as estimated (UJ).

c. If the samples were properly preserved, and were extracted and analyzed within the technical holding time, no qualification of the data is necessary.

d. If the samples were properly preserved, and were extracted or analyzed outside the technical holding time, qualify detects as estimated (J) and non-detects as estimated (UJ). Note in the Data Review Narrative that holding times were exceeded and the effect of exceeding the holding time on the resulting data.

e. Use professional judgment to qualify samples whose temperature upon receipt at the laboratory is either below 2 degrees centigrade or above 6 degrees centigrade.
f. If technical holding times are grossly exceeded, use professional judgment to qualify the data.

All criteria were met __X__
Criteria were not met see below ____

GAS CHROMATOGRAPH WITH ELECTRON CAPTURE DETECTOR (GC/ECD) INSTRUMENT PERFORMANCE CHECK (SECTIONS 1 TO 5)

1. Resolution Check Mixture

Criteria

Is the resolution between two adjacent peaks in the Resolution Check Mixture C greater than or equal to 80.0% for all analytes for the primary column and greater than or equal to 50.0% for the confirmation column? **Yes**? or No?

Is the resolution between two adjacent peaks in the Resolution Check Mixture (A and B) greater than or equal to 60.0%? Yes? or No?

Note: If resolution criteria are not met, the quantitative results may not be accurate due to inadequate resolution. Qualitative identifications may also be questionable if coelution exists.

Action

a. Qualify detects for target compounds that were not adequately resolved as tentatively identified (NJ).
b. Qualify non-detected compounds as unusable (R).

2. Performance Evaluation Mixture (PEM) Resolution Criteria

Criteria

Is PEM analysis performed at the required frequency (at the end of each pesticide initial calibration sequence and every 12 hours)? **Yes**? or No?

Action

a. If PEM is not performed at the required frequency, qualify all associated sample and blank results as unusable (R).

Criteria

Is PEM % Resolution < 90%? Yes? or **No?**

Action

a. a. Qualify detects for target compounds that were not adequately resolved as tentatively identified (NJ).
b. Qualify non-detected compounds as unusable (R).

All criteria were met ___X___
Criteria were not met see below ____

3. PEM 4,4'-DDT Breakdown

Criteria

Is the PEM 4,4'-DDT % Breakdown >20.0% and 4,4'-DDT is detected? Yes? or **No**?

Action

a. Qualify detects for 4,4'-DDT; detects for 4,4'-DDD; and detects for 4,4'-DDE as estimated (J)

Criteria

Is the PEM 4,4'-DDT % Breakdown >20.0% and 4,4'-DDT is not detected Yes? or **No**?

Action

a. Qualify non-detects for 4,4'- DDT as unusable (R)
b. Qualify detects for 4,4'-DDD as tentatively identified (NJ)
c. Qualify detects for 4,4'-DDE as tentatively identified (NJ)

4. PEM Endrin Breakdown

Criteria

Is the PEM Endrin % Breakdown >20.0% and Endrin is detected? Yes? or **No**?

Action

a. Qualify detects for Endrin; detects for Endrin aldehyde; and detects for Endrin ketone as estimated (J)

Criteria

Is the PEM Endrin % Breakdown >20.0% and Endrin is not detected Yes? or **No**?

Action

a. Qualify non-detects for Endrin as unusable (R)
b. Qualify detects for Endrin aldehyde as tentatively identified (NJ)
c. Qualify detects for Endrin ketone as tentatively identified (NJ)

All criteria were met ___X___
Criteria were not met see below _____

5. Mid-point Individual Standard Mixture Resolution -

Criteria

Is the resolution between two adjacent peaks in the Resolution Check Mixture C greater than or equal to 80.0% for all analytes for the primary column and greater than or equal to 50.0% for the confirmation column? **Yes**? or No?

Is the resolution between two adjacent peaks in the Resolution Check Mixture (A and B) greater than or equal to 90.0%? **Yes**? or No?

Note: If resolution criteria are not met, the quantitative results may not be accurate due to inadequate resolution. Qualitative identifications may also be questionable if coelution exists.

Action

a. Qualify detects for target compounds that were not adequately resolved as tentatively identified (NJ).
b. Qualify non-detected compounds as unusable (R).

Criteria

Is mid-point individual standard mixture analysis performed at the required frequency (every 12 hours)? **Yes**? or No?

Action

a. If the mid-point individual standard mixture analysis is not performed at the required frequency, qualify all associated sample and blank results as unusable (R).

All criteria were met _X_____
Criteria were not met
and/or see below _____

CALIBRATION VERIFICATION

Compliance requirements for satisfactory instrument calibration are established to ensure that the instrument is capable of producing and maintaining acceptable quantitative data.

Date of initial calibration:_____06/10/16_____
Dates of initial calibration verification:_____06/10/16_____
Dates of continuing calibration:_____06/27/16;_06/28/16_____
Dates of final calibration_____-_____
Instrument ID numbers:_____GC6G_____
Matrix/Level:_____Aqueous/low_____

DATE	LAB FILE ID#	CRITERIA OUT RFs, %RSD, %D, r	COMPOUND	SAMPLES AFFECTED
Initial and initial calibration verification within the guidance document performance criteria. Continuing calibration % differences meet the performance criteria in at least one of the two columns. Final calibration verification not included in data package. No action taken, professional judgment.				

Criteria

Are a five point calibration curve delivered with concentration levels as shown in Table 3 of SOP HW-36A, Revision 0, June, 2015? **Yes**? or No?

Actions

If the standard concentrations listed in Table 3 are not used, use professional judgment to evaluate the effect on the data

Criteria

Are RT Windows calculated correctly? **Yes**? or No?

All criteria were met __X__
Criteria were not met
and/or see below _____

Action

Recalculate the windows and use the corrected values for all evaluations.

Criteria

Are the Percent Relative Standard Deviation (%RSD) of the CFs for each of the single component target compounds less than or equal to 20.0%, except for alpha-BHC and delta-BHC?

Yes? or No?

Are the %RSD of the CFs for alpha-BHC and delta-BHC less than or equal to 25.0%. Yes? or No?

Is the %RSD of the CFs for each of the Toxaphene peaks must be < 30% when 5-point ICAL is performed? Yes? or No?

Is the %RSD of the CFs for the two surrogates (tetrachloro-m-xylene and decachlorobiphenyl) less than or equal to 30.0%. Yes? or No?

Action

a. If the %RSD criteria are not met, qualify detects as estimated (J) and use professional judgment to qualify non-detected target compounds.
b. If the %RSD criteria are within allowable limits, no qualification of the data is necessary

Continuing Calibration Checks

Criteria

Is the continuing calibration standard analyzed at the acceptable time intervals? Yes? or No?

Action

a. If more than 14 hours has elapsed from the injection of the instrument blank that begins an analytical sequence (opening CCV) and the injection of either a PEM or mid-point concentration of the Individual Standard Mixtures (A and B) or (C), qualify all data as unusable (R).
b. If more than 12 hours has elapsed from the injection of the instrument blank that begins an analytical sequence (opening CCV) and the injection of the last sample or blank that is part of the same analytical sequence, qualify all data as unusable (R).
c. If more than 72 hours has elapsed from the injection of the sample with a Toxaphene detection and the Toxaphene Calibration Verification Standard (CS3), qualify all data as unusable (R).

Criteria

Is the Percent Difference (%D) within ±25.0% for the PEM sample? Yes? or No?

Action
a. Qualify associated detects as estimated (J) and non-detects as estimated (UJ).

Criteria

For the Calibration Verification Standard (CS3); is the Percent Difference (%D) within ± 25.0%?
Yes? or **No**?

Action

Qualify associated detects as estimated (J) and non-detects as estimated (UJ).

Criteria

Is the PEM 4,4'-DDT % Breakdown >20.0% and 4,4'-DDT is detected? Yes? or **No**?

Action

a. Qualify detects for 4,4'-DDT; detects for 4,4'-DDD; and detects for 4,4'-DDE as estimated (J)
b. Non-detected associated compounds are not qualified

Criteria

Is the PEM 4,4'-DDT % Breakdown >20.0% and 4,4'-DDT is not detected Yes? or **No**?

Action

a. Qualify non-detects for 4,4'- DDT as unusable (R)
b. Qualify detects for 4,4'-DDD as tentatively identified (NJ)
c. Qualify detects for 4,4'-DDE as tentatively identified (NJ)

Criteria

Is the PEM Endrin % Breakdown >20.0% and Endrin is detected? Yes? or **No**?

Action

a. Qualify detects for Endrin; detects for Endrin aldehyde; and detects for Endrin ketone as estimated (J)
b. Non-detected associated compounds are not qualified

Criteria

Is the PEM Endrin % Breakdown >20.0% and Endrin is not detected Yes? or **No**?

Action

a. Qualify non-detects for Endrin as unusable (R)
b. Qualify detects for Endrin aldehyde as tentatively identified (NJ)
c. Qualify detects for Endrin ketone as tentatively identified (NJ)

A separate worksheet should be filled for each initial curve

All criteria were met _X_
Criteria were not met
and/or see below _____

BLANK ANALYSIS RESULTS (Sections 1 & 2)

The assessment of the blank analysis results is to determine the existence and magnitude of contamination problems. The criteria for evaluation of blanks apply only to blanks associated with the samples, including trip, equipment, and laboratory blanks. If problems with any blanks exist, all data associated with the case must be carefully evaluated to determine whether or not there is an inherent variability in the data for the case, or if the problem is an isolated occurrence not affecting other data.

List the contamination in the blanks below. High and low levels blanks must be treated separately.

CRQL concentration_____N/A_____

Laboratory blanks

DATE ANALYZED	LAB ID	LEVEL/ MATRIX	COMPOUND	CONCENTRATION UNITS
No target analytes detected in method blanks at a reporting limit of 0.01 and 0.25 ug/L				

Field/Equipment/Trip blank

DATE ANALYZED	LAB ID	LEVEL/ MATRIX	COMPOUND	CONCENTRATION UNITS
No target analytes detected in the equipment blank. No field/trip blanks analyzed with this data package.				

All criteria were met __X__
Criteria were not met
and/or see below _____

BLANK ANALYSIS RESULTS (Section 3)

Blank Actions

Action Levels (ALs) should be based upon the highest concentration of contaminant determined in any blank. Do not qualify any blank with another blank. The ALs for samples which have been diluted should be corrected for the sample dilution factor and/or % moisture, where applicable. No positive sample results should be reported unless the concentration of the compound in the samples exceeds the ALs:

The concentration of non-target compounds in all blanks must be less than or equal to 10 µg/L. The concentration of each target compound found in the method or field blanks must be less than its CRQL listed in the method.

Data concerning the field blanks are not evaluated as part of the CCS process. If field blanks are present, the data reviewer should evaluate this data in a similar fashion as the method blanks.

Specific actions are as follows:

Blank Actions for Pesticide Analyses

Blank Type	Blank Result	Sample Result	Action for Samples
Method, Sulfur Cleanup, Instrument, Field, TCLP/SPLP	Detects	Not detected	No qualification required
	< CRQL	< CRQL	Report CRQL value with a U
		≥ CRQL	No qualification required
	> CRQL	< CRQL	Report CRQL value with a U
		≥ CRQL and ≤ blank concentration	Report blank value for sample concentration with a U
		≥ CRQL and > blank concentration	No qualification required
	= CRQL	≤ CRQL	Report CRQL value with a U
		> CRQL	No qualification required
	Gross contamination	Detects	Report blank value for sample concentration with a U

All criteria were met __X__
Criteria were not met
and/or see below ____

BLANK ANALYSIS RESULTS (Section 3)

Blank Actions

Action Levels (ALs) should be based upon the highest concentration of contaminant determined in any blank. Do not qualify any blank with another blank. The ALs for samples which have been diluted should be corrected for the sample dilution factor and/or % moisture, where applicable. No positive sample results should be reported unless the concentration of the compound in the samples exceeds the ALs:

The concentration of non-target compounds in all blanks must be less than or equal to 10 µg/L. The concentration of each target compound found in the method or field blanks must be less than its CRQL listed in the method.

Data concerning the field blanks are not evaluated as part of the CCS process. If field blanks are present, the data reviewer should evaluate this data in a similar fashion as the method blanks.

Specific actions are as follows:

Blank Actions for Pesticide Analyses

All criteria were met __X__
Criteria were not met
and/or see below _____

CONTAMINATION SOURCE/LEVEL	COMPOUND	CONC/UNITS	AL/UNITS	SQL	AFFECTED SAMPLES

All criteria were met __X__
Criteria were not met
and/or see below _____

SURROGATE SPIKE RECOVERIES

Laboratory performance of individual samples is established by evaluation of surrogate spike recoveries. All samples are spiked with surrogate compounds prior to sample analysis. The accuracy of the analysis is measured by the surrogate percent recovery. Since the effects of the sample matrix are frequently outside the control of the laboratory and may present relatively unique problems, the validation of data is frequently subjective and demands analytical experience and professional judgment.

List the percent recoveries (%Rs) which do not meet the criteria for surrogate recovery.

Matrix:_Aqueous_____

Lab Sample ID	Lab File ID	S1 a	S1 b	S2 a	S2 b
JC22206-4	6G36621.D	102	96	85	87
JC22206-5	6G36622.D	93	85	76	76
JC22206-6	6G36623.D	105	103	91	98
JC22206-7	6G36624.D	114	110	107	110
JC22206-8	6G36670.D	44	82	31	49
JC22206-8	6G36625.D	13* c	39	8* c	28
JC22206-9	6G36626.D	63	61	41	42
JC22206-10	6G36629.D	94	89	59	60
JC22206-11	6G36630.D	106	106	68	75
OP94861-BS1	6G36620.D	91	92	91	99
OP94861-MB1	6G36619.D	97	93	90	96
OP94861-MS	6G36627.D	105	104	88	90
OP94861-MSD	6G36628.D	88	86	75	74

Surrogate Compounds	Recovery Limits
S1 = Tetrachloro-m-xylene	26-132%
S2 = Decachlorobiphenyl	10-118%

(a) Recovery from GC signal #1 (b) Recovery from GC signal #2
(c) Outside control limits due to matrix interference with the internal standard.

Note: Surrogate recoveries within laboratory control limits in the two columns except in sample JC22206-8. Sample re-analyzed and surrogate recoveries within laboratory control limits. No action taken.

Actions:

a. For any surrogate recovery greater than 150%, qualify detected target compounds as biased high (J+).
b. Do not qualify non-detected target compounds for surrogate recovery > 150 %.
c. If both surrogate recoveries are greater than or equal to 30% and less than or equal to 150%, no qualification of the data is necessary.

d. For any surrogate recovery greater than or equal to 10% and less than 30%, qualify detected target compounds as biased low (J-).
e. For any surrogate recovery greater than or equal to 10% and less than 30%, qualify non-detected target compounds as approximated (UJ).
f. If low surrogate recoveries are from sample dilution, professional judgment should be used to determine if the resulting data should be qualified. If sample dilution is not a factor:

i. Qualify detected target compounds as biased low (J-).

ii. Qualify non-detected target compounds as unusable (R).

g. If surrogate RTs in PEMs, Individual Standard Mixtures, samples, and blanks are outside of the RT Windows, the reviewer must use professional judgment to qualify data.
h. If surrogate RTs are within RT windows, no qualification of the data is necessary.
i. If the two surrogates were not added to all samples, MS/MSDs, standards, LCSs, and blanks, use professional judgment in qualifying data as missing surrogate analyte may not directly apply to target analytes.

Summary Surrogate Actions for Pesticide Analyses

Criteria	Action*	
	Detected Target Compounds	Non-detected Target Compounds
%R > 150%	J+	No qualification
30% < %R < 150%	No qualification	
10% < %R < 30%	J-	UJ
%R < 10% (sample dilution not a factor)	J-	R
%R < 10% (sample dilution is a factor)	Use professional judgment	
RT out of RT window	Use professional judgment	
RT within RT window	No qualification	

* Use professional judgment in qualifying data, as surrogate recovery problems may not directly apply to target analytes.

If criteria were met __X__
Criteria were not met
and/or see below _____

MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD)

This data is generated to determine long term precision and accuracy in the analytical method for various matrices. This data alone cannot be used to evaluate the precision and accuracy of individual samples. If any % R in the MS or MSD falls outside the designated range, the reviewer should determine if there are matrix effects, i.e. LCS data are within the QC limits but MS/MSD data are outside QC limit.

1. MS/MSD Recoveries and Precision Criteria

Data for MS and MSDs will not be present unless requested by the Region.
Notify the Contract Laboratory Program Project Officer (CLP PO) if a field blank was used for the MS and MSD, unless designated as such by the Region.

> **NOTE:** For a Matrix Spike that does not meet criteria, apply the action to only the field sample used to prepare the Matrix Spike sample. If it is clearly stated in the data validation materials that the samples were taken through incremental sampling or some other method guaranteeing the homogeneity of the sample group, then the entire sample group may be qualified.

List the %Rs, RPD of the compounds which do not meet the criteria.

Sample ID:____JC22206-9MS/MSD____ Matrix/Level:__Groundwater___

MS OR MSD	COMPOUND	% R	RPD	QC LIMITS	ACTION

Note: MS/MSD sample analyzed with this data package. % recoveries and RPD within laboratory control limits.

Action

No qualification of the data is necessary on MS and MSD data alone. However, using professional judgment, the validator may use the MS and MSD results in conjunction with other QC criteria and determine the need for some qualification of the data.

A separate worksheet should be used for each MS/MSD pair.

All criteria were met _X_
Criteria were not met
and/or see below _____

LABORATORY CONTROL SAMPLE (LCS) ANALYSIS

This data is generated to determine accuracy of the analytical method for various matrices.

1. LCS Recoveries Criteria

LCS Spike Compound	Recovery Limits (%)
gamma-BHC	50 – 120
Heptachlor epoxide	50 – 150
Dieldrin	30 – 130
4,4'-DDE	50 – 150
Endrin	50 – 120
Endosulfan sulfate	50 – 120
trans-Chlordane	30 – 130
Tetrachloro-m-xylene (surrogate)	30 – 150
Decachlorobiphenyl (surrogate)	30 – 150

LCS concentrations:____0.25_ug/l;_____

List the %R of compounds which do not meet the criteria

LCS ID	COMPOUND	% R	QC LIMIT

Action

The following guidance is suggested for qualifying sample data for which the associated LCS does not meet the required criteria.

a. If the LCS recovery exceeds the upper acceptance limit, qualify detected target compounds as estimated (J). Do not qualify non-detected target compounds.

b. If the LCS recovery is less than the lower acceptance limit, qualify detected target compounds as estimated (J) and non-detects as unusable (R).

c. Use professional judgment to qualify data for compounds other than those compounds that are included in the LCS.

d. Use professional judgment to qualify non-LCS compounds. Take into account the compound class, compound recovery efficiency, analytical problems associated with each compound, and comparability in the performance of the LCS compound to the non-LCS compound.

e. If the LCS recovery is within allowable limits, no qualification of the data is necessary.

2. Frequency Criteria:

Where LCS analyzed at the required frequency and for each matrix? **Yes** or No.
If no, the data may be affected. Use professional judgment to determine the severity of the effect and qualify data accordingly. Discuss any actions below and list the samples affected.

Note: Blank spike analyzed for aqueous matrix. % recoveries within laboratory control limits. Recovery for gamma-chlordane obtained from second column, first column used for confirmation only.

All criteria were met _____
Criteria were not met
and/or see below __N/A____

FLORISIL CARTRIDGE PERFORMANCE CHECK

NOTE: Florisil cartridge cleanup is mandatory for all extracts.

Criteria

Is the Florisil cartridge performance check conducted at least once on each lot of cartridges used for sample cleanup or every 6 months, whichever is most frequent? Yes? or No? N/A

Criteria

Are the results for the Florisil Cartridge Performance Check solution included with the data package? Yes? or No? N/A

Note: If % criteria are not met, examine the raw data for the presence of polar interferences and use professional judgment in qualifying the data as follows:

Action:

a. If the Percent Recovery is greater than 120% for any of the pesticide target compounds in the Florisil Cartridge Performance Check, qualify detected compounds as estimated (J). Do not qualify non-detected target compounds.
b. If the Percent Recovery is greater than or equal to 80% and less than or equal to 120% for all the pesticide target compounds, no qualification of the data is necessary.
c. If the Percent Recovery is greater than or equal to 10% and less than 80% for any of the pesticide target compounds in the Florisil Cartridge Performance Check, qualify detected target compounds as estimated (J) and non-detected target compounds as approximated (UJ).
d. If the Percent Recovery is less than 10% for any of the pesticide target compounds in the Florisil Cartridge Performance Check, qualify detected compounds as estimated (J) and qualify non-detected target compounds as unusable (R).
e. If the Percent Recovery of 2,4,5-trichlorophenol in the Florisil Cartridge Performance Check is greater than or equal to 5%, use professional judgment to qualify detected and non-detected target compounds, considering interference on the sample chromatogram.

Note: State in the Data Review Narrative potential effects on the sample data resulting from the Florisil Cartridge Performance Check analysis not yielding acceptable results.

Note:_ No information for florisil cartridge performance check included in data package. There is evidence tahtFlorisil cartridge was used for sample extraction/clean-up. No qualification of the data performed, professional judgment.

All criteria were met __N/A____
Criteria were not met
and/or see below _____

GEL PERMEATION CHROMATOGRAPHY (GPC) PERFORMANCE CHECK

NOTE: GPC cleanup is mandatory for all soil samples.

If GPC criteria are not met, examine the raw data for the presence of high molecular weight contaminants; examine subsequent sample data for unusual peaks; and use professional judgment in qualifying the data. Notify the Contract Laboratory Program Project Officer (CLP PO) if the laboratory chooses to analyze samples under unacceptable GPC criteria.

Action:

a. If the Percent Recovery is less than 10% for the pesticide compounds and surrogates during the GPC calibration check, the non-detected target compounds may be suspect, qualify detected compounds as estimated (J).
b. If the Percent Recovery is less than 10% for the pesticide compounds and surrogates during the GPC calibration check, qualify all non-detected target compounds as unusable (R).
c. If the Percent Recovery is greater than or equal to 10% and is less than 80% for any of the pesticide target compounds in the GPC calibration, qualify detected target compounds as estimated (J) and non-detected target compounds as approximated (UJ).
d. If the Percent Recovery is greater than or equal to 80% and less than or equal to 120% for all the pesticide target compounds, no qualification of the data is necessary.
e. If high recoveries (i.e., greater than 120%) were obtained for the pesticides and surrogates during the GPC calibration check, qualify detected compounds as estimated (J). Do not qualify non-detected target compounds.

Note: State in the Data Review Narrative potential effects on the sample data resulting from the GPC cleanup analyses not yielding acceptable results.

Note:_ No information for performance of GPC cleanup included in data package. No qualification of the data performed, professional judgment.

All criteria were met __X__
Criteria were not met
and/or see below _____

TARGET COMPOUND IDENTIFICATION

Criteria:

1. Is Retention Times (RTs) of both of the surrogates and reported target compounds in each sample within the calculated RT Windows on both columns? **Yes**? or No?

2. Is the Tetrachloro-m-xylene (TCX) RT ±0.05 minutes of the Mean RT (RT) determined from the initial calibration and Decachlorobiphenyl (DCB) within ±0.10 minutes of the RT determined from the initial calibration? **Yes**? or No?

3. Is the Percent Difference (%D) for the detected mean concentrations of a pesticide target compound between the two Gas Chromatograph (GC) columns within the inclusive range of ± 25.0 %? **Yes**? or No?

4. When no analytes are identified in a sample; are the chromatograms from the analyses of the sample extract and the low-point standard of the initial calibration associated with those analyses on the same scaling factor? **Yes**? or No?

5. Does the chromatograms display the Single Component Pesticides (SCPs) detected in the sample and the largest peak of any multi-component analyte detected in the sample at less than full scale. Yes? or **No**?

6. If an extract is diluted; does the chromatogram display SCPs peaks between 10-100% of full scale, and multi-component analytes between 25-100% of full scale? Yes? or No? **N/A**

7. For any sample; does the baseline of the chromatogram return to below 50% of full scale before the elution time of alpha-BHC, and also return to below 25% of full scale after the elution time of alpha-BHC and before the elution time of DCB? **Yes**? or No?

8. If a chromatogram is replotted electronically to meet these requirements; is the scaling factor used displayed on the chromatogram, and both the initial chromatogram and the replotted chromatogram submitted in the data package. Yes? or **No**?

Action:

a. If the qualitative criteria for both columns were not met, all target compounds that are reported as detected should be considered non-detected.

b. Use professional judgment to assign an appropriate quantitation limit using the following guidance:

i. If the detected target compound peak was sufficiently outside the pesticide RT Window, the reported values may be a false positive and should be replaced with the sample Contract Required Quantitation Limits (CRQL) value.

ii. If the detected target compound peak poses an interference with potential detection of another target peak, the reported value should be considered and qualified as unusable (R).

c. If the data reviewer identifies a peak in both GC column analyses that falls within the appropriate RT Windows, but was reported as a non-detect, the compound may be a false negative. Use professional judgment to decide if the compound should be included.

Note: State in the Data Review Narrative all conclusions made regarding target compound identification.

d. If the Toxaphene peak RT windows determined from the calibration overlap with SCPs or chromatographic interferences, use professional judgment to qualify the data.

e. If target compounds were detected on both GC columns, and the Percent Difference between the two results is greater than 25.0%, consider the potential for coelution and use professional judgment to decide whether a much larger concentration obtained on one column versus the other indicates the presence of an interfering compound. If an interfering compound is indicated, use professional judgment to determine how best to report, and if necessary, qualify the data according to these guidelines.

f. If Toxaphene exhibits a marginal pattern-matching quality, use professional judgment to establish whether the differences are due to environmental "weathering" (i.e., degradation of the earlier eluting peaks relative to the later eluting peaks). If the presence of Toxaphene is strongly suggested, report results as presumptively present (N).

GAS CHROMATOGRAPH/MASS SPECTROMETER (GC/MS) CONFIRMATION

NOTE: This confirmation is not usually provided by the laboratory. In cases where it is provided, use professional judgment to determine if data qualified with "C" can be salvaged if it was previously qualified as unusable (R).

Action:

a. If the quantitative criteria for both columns were met (≥ 5.0 ng/µL for SCPs and ≥ 125 ng/µL for Toxaphene), determine whether GC/MS confirmation was performed. If it was performed, qualify the data using the following guidance:

i. If GC/MS confirmation was not required because the quantitative criteria for both columns was not met, but it was still performed, use professional judgment when evaluating the data to decide whether the detect should be qualified with "C".

ii. If GC/MS confirmation was performed, but unsuccessful for a target compound detected by GC/ECD analysis, qualify those detects as "X".

All criteria were met __X__
Criteria were not met
and/or see below _____

COMPOUND QUANTITATION AND REPORTED CONTRACT REQUIRED QUANTITATION LIMITS (CRQLS)

The sample quantitation evaluation is to verify laboratory quantitation results. In the space below, please show a minimum of one sample calculation:

JC22206-1 Tetrachloro-m-xylene RF = 0.948

[ ] = (93664467)(50)/(120.9 X 10^6)(0.948)
= 40.86 ppb Ok

Action:

a. If sample quantitation is different from the reported value, qualify result as unusable (R).
b. When a sample is analyzed at more than one dilution, the lowest CRQLs are used unless a QC exceedance dictates the use of the higher CRQLs from the diluted sample.
c. Replace concentrations that exceed the calibration range in the original analysis by crossing out the "E" and its corresponding value on the original reporting form and substituting the data from the diluted sample.
d. Results between the MDL and CRQL should be qualified as estimated (J).
e. Results less than the MDL should be reported at the CRQL and qualified (U). MDLs themselves are not reported.
f. For non-aqueous samples, if the percent moisture is less than 70.0%, no qualification of the data is necessary. If the percent moisture is greater than or equal to 70.0% and less than 90.0%, qualify detects as estimated (J) and non-detects as approximated (UJ). If the percent moisture is greater than or equal to 90.0%, qualify detects as estimated (J) and non-detects as unusable (R) (see Table).

Percent Moisture Actions for Pesticide Analysis for Non-Aqueous Samples

Criteria	Action	
	Detected Associated Compounds	Non-detected Associated Compounds
% Moisture < 70.0	No qualification	
70.0 < % Moisture < 90.0	J	UJ
% Moisture > 90.0	J	R

List samples which have ≤ 50 % solids

Note: If any discrepancies are found, the Region's designated representative may contact the laboratory to obtain additional information that could resolve any differences. If a discrepancy remains unresolved, the reviewer must use professional judgment to decide which value is the most accurate. Under these circumstances, the reviewer may determine that qualification of data is warranted. Note in the Data Review Narrative a description of the reasons for data qualification and the qualification that is applied to the data.

Dilution performed

SAMPLE ID	DILUTION FACTOR	REASON FOR DILUTION
JC22206-8	5 X	MATRIX INTERFERENCE

All criteria were met __N/A__
Criteria were not met
and/or see below _____

FIELD DUPLICATE PRECISION

NOTE: In the absence of QAPP guidance for validating data from field duplicates, the following action will be taken.

Field duplicates samples may be taken and analyzed as an indication of overall precision. These analyses measure both field and lab precision; therefore, the results may have more variability than laboratory duplicates which only laboratory performance. It is also expected that soil duplicate results will have a greater variance than water matrices due to difficulties associated with collecting identical field duplicate samples. Identify which samples within the data package are field duplicates. Estimate the relative percent difference (RPD) between the values for each compound. If large RPDs (> 50%) is observed, confirm identification of samples and note difference in the executive summary.

Sample IDs: _____-_____ Matrix:_____-_____

COMPOUND	SQL ug/L	SAMPLE CONC.	DUPLICATE CONC.	RPD	ACTION
No field/laboratory duplicate analyzed with this data package. MS/MSD % recoveries RPD used to assess precision. RPD within the required criteria of < 50 %.					

Actions:

a. Qualify as estimated positive results (J) and nondetects (UJ) for the compound that exceeded the above criteria. For organics, only the sample and duplicate will be qualified.

b. If an RPD cannot be calculated because one or both of the sample results is not detected, the following actions apply:

i. If one sample result is not detected and the other is greater than 5x the SQL qualify (J/UJ).

ii. If one sample value is not detected and the other is greater than 5x the SQL and the SQLs for the sample and duplicate are significantly different, use professional judgment to determine if qualification is appropriate.

iii. If one sample value is not detected and the other is less than 5x, use professional judgment to determine if qualification is appropriate.

iv. If both sample and duplicate results are not detected, no action is needed.

OVERALL ASSESSMENT OF DATA

Action:

1. Use professional judgment to determine if there is any need to qualify data which were not qualified based on the Quality Control (QC) criteria previously discussed.

2. Write a brief narrative to give the user an indication of the analytical limitations of the data.

Note: The Contract Laboratory Program Project Officer (CLP PO) must be informed if any inconsistency of the data with the Sample Delivery Group (SDG) Narrative. If sufficient information on the intended use and required quality of the data is available, the reviewer should include their assessment of the usability of the data within the given context. This may be used as part of a formal Data Quality Assessment (DQA).

Overall assessment of the data: Results are valid; the data can be used for decision making purposes.